The Singapore Family Physician

The College of General Practitioners Singapore
Vol. V
No. 3
July/September 1979

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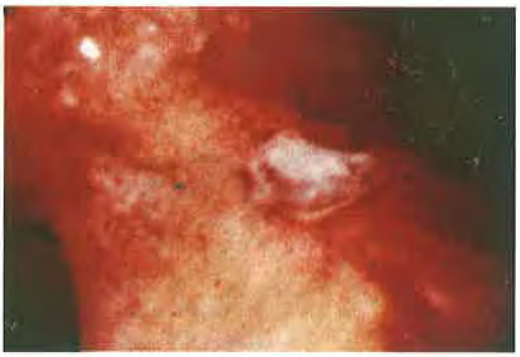

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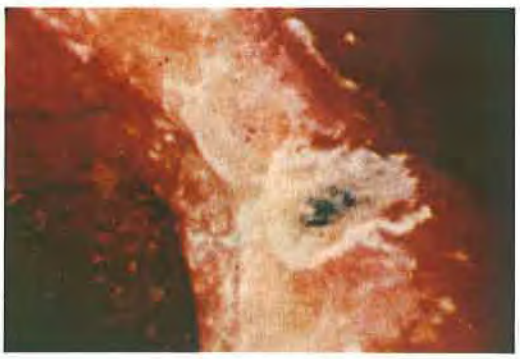

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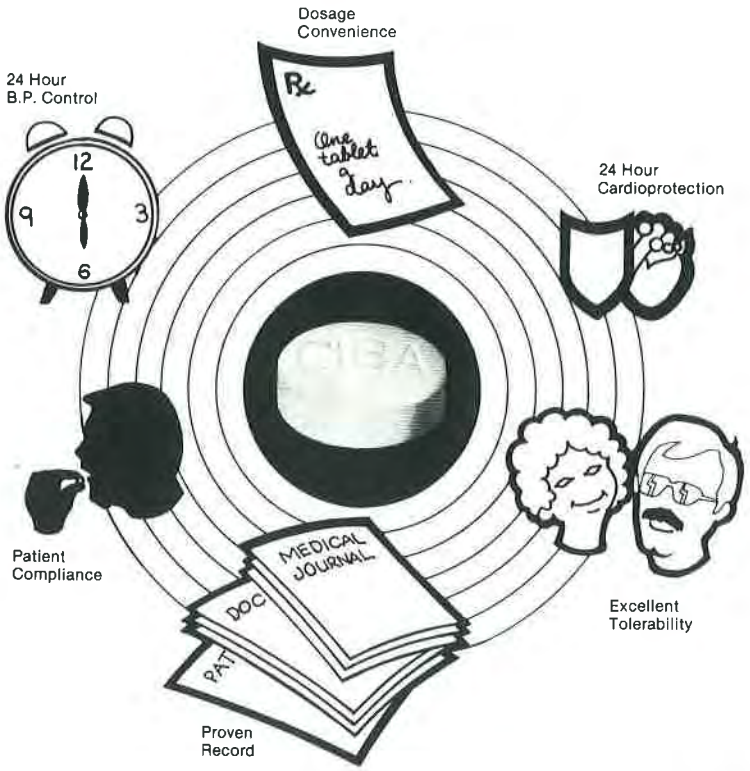

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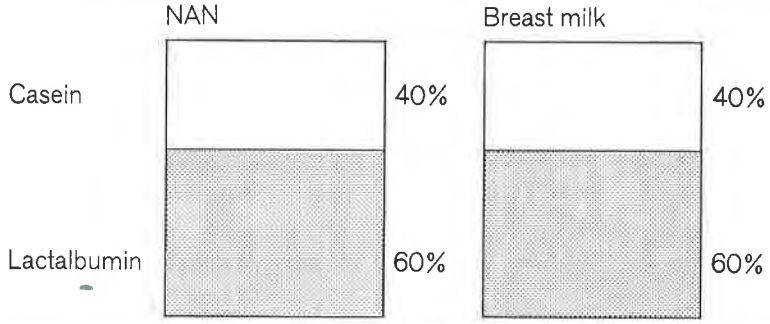

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Editorial
Educational Weaning

Formal Educational Situation

By the time the average student qualified as a medical graduate, he would have spent seventeen years in a formal educational situation consisting of teachers, classrooms or lecture halls, laboratory workshops, dissection classes and clinical assignments within a set syllabus of studies. The implication of a formal educational situation is that the responsibility of learning lies with the teachers. They assume the responsibility of ensuring that the students under their charge will have completed the set syllabus of instruction and achieved an acceptable standard of competence in understanding which is decided by a system of assessment at the end of the course. Different teachers discharge their duties in ways differing only in the relative degree of responsibility consigned to their students for their own progress. But the underlying fabric of understanding is that the teacher and the educational institution are fully responsible for the progress of the students. The emphasis appears to be INSTRUCTION by the teacher and ABSORPTION of knowledge by the students. There is thus a certain degree of PASSIVE EXPECTATION by students in a formal educational situation.

Informal Educational Situation

Although we spend a considerable part of our lives in a formal educational situation, this is by no means the only way to acquire knowledge and to gain wisdom. A considerable part of learning takes place in informal educational situations outside the classrooms or lecture halls. Sometimes we may not even be conscious or aware of the learning situation. The proverbial child who finds out about fires and learns to avoid them has actually learnt a lesson which he is unlikely to forget for the rest of his life. The important features of this unstructured situation are an interaction between learner and environment and a subsequent change in the pattern of his behaviour. Every learning experience leaves the learner in a slightly changed state. Two important questions require answers from the learner-environment relationship. Firstly, if the environment is rich, stimulating and conducive to learning, is the opportunity for learning considerably increased? Secondly, is the implication that the learner is capable of learning from the situation well founded? The discussions which follow will shed sufficient light to illuminate the answers.

In 1951, E. Milner showed the importance of the informal learning situation in an investigation. Children in the first grade of primary school were given a test designed to give an idea of their linguistic level — the California Test of Mental Maturation. Two groups of children were chosen for special attention. The group of children who achieved very high scores were compared with the group with very low scores. Their family backgrounds were looked into. Children who attained very high scores were found to have a better home environment than those whose scores were very low. They had much better contacts with adults. Their families usually had breakfast together and these children usually participated in the situational conversation generated at such time. They also shared other meals together. Children with very low scores usually had breakfast and other meals alone and were therefore denied the opportunity to engage in conversation with their parents. Even when the opportunity was present for conversation with their parents, usually at supper, they did not participate in the conversation.

Babies in institutional homes are generally found to have distinctly fewer linguistic sounds than babies brought up in normal families. When they grow up their effective use of language is considerably delayed. It is well known that language stimulation by parents is singularly lacking in institutional homes. Moreover, the monotonous and impersonal character of an institutional home discourage a child's desire to vocalize.

It has also been noted that the only child in a family has a distinct advantage over other children in respect of adult stimulation and such children are generally more proficient in language ability.

The observations so far point to only one direction. A child learns well from informal educational stimulation and is mentally superior to the child who is deprived of such informal educational stimulation. Arnold Gesell went so far as to suggest that a defective linguistic environment has a cumulatively degrading and impoverishing effect on intellectual development.

General Practitioners' Dilemma

It is obvious that General Practitioners' working conditions provide little occasion or encouragement for further formal learning situations. General practice is competitive and long hours are kept to chase the illusory pot of gold which never seems to be within reach. Long hours bring fatigue and when this is added to family responsibilities the motivation and desire to even keep up with current medical knowledge is at the lowest ebb. However, there is no denying that any length of time spent in such an intellectually-deprived situation will in the end produce an ineffective doctor.

In a series of experiments conducted at the McGill University in Canada, the effects of "sensory deprivation" were studied. Volunteer students were paid handsomely for remaining completely inactive and shielded as much as possible from all forms of stimulation. They lay on a soft bed in a soundproof room. They wore goggles that transmitted only diffused light. Cardboard tubes were put over their hands to prevent touch. Under these circumstances the subjects found great difficulty in even simple intellectual tasks. They experienced a variety of perceptual distortions and hallucinations. They felt a compelling need and indeed craved for even the most monotonous type of stimulation such as the repetition of a stockmarket report. In the absence of some minimum of sensory stimulation, the subjects deteriorated.

The above experiments are cited not to impute that a GP who does not keep up with current medical literature will fall into the same predicament as the experimental subjects but to indicate the need for intellectual stimulation if he wants to perform at maximum efficiency. Intellectual stimulation is necessary for optimum mental well-being and function.

Educational Weaning

There is an obvious need for GPs to organize their lives and practices so that enough time is set aside for continuing education. This self-imposed programme of continuing education will of course be vastly different from the formal education situation with which they have been so familiar and dependent for almost two decades of their lives.

Every GP should strive to be educationally self-supporting, to become his own teacher and to develop an ability to learn without the aid of formal guidance. There is a well known plea which has been quoted many times before in different contexts. "Don't give us fish; rather teach us how to fish". A GP therefore has to learn how to evolve a system whereby he can do these things:—

a) to extract and absorb new knowledge relevant to his needs from current medical literature and

b) to create new knowledge for himself.

Knowledge does not simply accumulate; it also becomes obsolete. Much of the detailed information acquired during formal education becomes obsolete shortly afterwards.

It must be recognised that the function of colleges and universities is not the mere handing out of a self-contained and complete parcel of knowledge and professional competence. It is rather the preparation of those who have passed through their portals for a process of learning to continue throughout life.

The responsibility for organizing his own learning therefore rests with the GP. He should depend more on books, articles and unstructured clinical work in his own practice rather than guidance from lecturers and teachers. There is no such thing as a "covered syllabus" in real life. There is no task master, prescribed homework and swotting such as he is accustomed to when preparing for an examination. These are unreal and artificial aspects of learning. His progress is not the responsibility of a teacher. He assumes his own responsibility.

Educational weaning means that a greater emphasis should be placed on "learning" by the learner rather than on "instruction" by the teacher. There should no longer be the "passive expectation" which is found in formal education situations. Educational weaning implies that the learner should now adopt the strategy of "active quest" for knowledge.

The purpose of educational weaning is to make a medical graduate into an ACTIVE LEARNER i.e. someone who can:—

a) organize his own progress,
b) select and find his own sources of information,
c) scrap obsolete ideas,
d) adapt or develop new knowledge and has
e) the desire and motivation to go on learning for the rest of his life.

Our College has very encouragingly succeeded in promoting this emphasis and has provided the necessary conditions and environment for educational weaning so important in producing the educationally independent GP. To be an educationally-weaned GP is to outgrow the dependence and passive expectation of educational "breast milk". When a certain maturational level has been reached one should no longer expect to be intellectually and educationally suckled.

L.V.C.

(Views expressed in the Editorial are not necessarily the official views of the College)

The President's Speech

delivered at the 8th Annual General Meeting
Dr. V.L. Fernandez

The Sixth Council of the College of General Practitioners Singapore ends its term of office today and the business of this afternoon is to consider, among other things, the progress that has been made during the past year – the second half of the Council's two-year term of office. A change of office in any organisation always seems the time to reflect on the past and look forward to the future. Your elected office-bearers, individually and collectively have given of their best and whatever has been achieved is the result of hard work and time given by them.

Continuing Education

During the past year we have concentrated on continuing education as our main function, our major role. We believe it proper that members should maintain their own continuing education and that this continuing education should be provided by the College. In pursuance of this policy your Continuing Education Committee has made great strides as seen by the tremendous response at the in-depth courses and seminars. The lunch-time teaching sessions at the Maxwell Road and Still Road Outpatient Departments as well as the video-screening sessions at the College premises have also drawn good attendances. The College Library with its fine collection of books, audio and visual tapes also provides an alternate means of upgrading current core knowledge and has been well utilized.

Recently there has been an increasing tendency for drug firms to organise symposiums and talks for general practitioners. While it is perhaps unfortunate in the eyes of some College members that drug firms see the need to sponsor educational functions providing food and alcohol, it has been argued that the time has come for the College to harness funds from drug firms to sponsor talks by outstanding overseas speakers, run week-end courses for general practitioners as well as courses for teacher-education.

Undergraduate Training in General Practice

At the undergraduate level – the training programme has progressed satisfactorily and there has been a significant improvement in the performance of the third year medical students. Attendances at the clinics and the pre and post posting seminars have been encouraging. Every year about 20 doctors have regularly volunteered to teach the medical students and I wish to thank them for their dedication and effort. To help them, guidelines have been produced for the teachers. The College has now to determine appropriate standards for teachers and to institute a programme for teacher education so that our clinical teachers would be trained in teaching method and content.

Vocational Training

With regard to Vocational Training the College Council is of the opinion that the training of the General Practitioner/Family Physician could not be undertaken by the College alone without public funding and official support. A memorandum on Postgraduate Medical Training (Primary Medical Care) was therefore sent by Council to the Minister of Health last month (April). The memorandum indicated to government the necessity of special training of the graduate entering primary health care services. The recent emphasis on primary health care and preventive medicine as the most cost-effective type of health service as well as the compulsory period of at least five years' service in government should now provide an opportunity for all medical graduates to have a minimum of hospital and primary care experience and training.

Examinations

The Sixth College Diplomate Examination was held in October 1978 and the four successful candidates received their diplomas at the Fourth College Convocation. The highlight of the evening was the First Sreenivasan Oration which was

delivered by Dr Wong Heck Sing – Immediate Past President of the College of General Practitioners Singapore. Preparations are now underway for the Seventh College Examination for Diplomate Membership and up-to-date seven candidates have registered for the examination. At this juncture I would like to thank Dr Evelyn Hanam for her untiring efforts and splendid performance as Censor-in-Chief during the past five years. Dr Hanam will be retiring as Censor-in-Chief to-day, and I would like to express on behalf of the College our gratitude and appreciation for all the good work she has done for the College.

Research

The College has urgent work to do in the field of research, to plan a research policy into family medicine. The fruits of research may then be fed back into teaching and of equal importance be used to provide the health care planners and politicians with essential information and advice so far unavailable. Many fundamental aspects of general practice need thorough assessment, and for this we need the active participation from individual members of the College.

Finance

As at 31st March 1979 our total assets stood at over $ 172,000/–. Every effort was made to conserve College funds and we have been able to meet our recurrent expenditure with our annual subscriptions and interest derived from our fixed deposits. As you are all aware, the present building housing the College premises may be making way for other developments by the government in a few years time. The College together with the other medical bodies housed in the Alumni Centre – namely the Singapore Medical Association, Singapore Dental Association, Alumni Association and Academy of Medicine are looking into the feasibility of erecting a new Medical Centre. The College would be embarking on a fund-raising campaign in the near future to meet the demands of the new College premises when the time arrives.

Conclusion

Finally, I would like to thank all of you for being members, for the College is no more than its members. By your efforts you have already achieved a lot and hence helped in no small measure to improve the standard of general practice in Singapore. It now remains for me to thank all those who have served or helped the College during the past two years, especially the members of Council, the Board of Censors, the Chairmen and members of the various standing committees and our hardworking Administrative Secretary, Mr. Vaz. To those of you who are retiring and not standing for re-election I am sure you can have the satisfaction of having done a job well; and to the in-coming Council I would say that there is urgent work to be done.

The Seventh College Council

STANDING (Left to right): *Dr Moti H Vaswani, Dr Leong Vie Chung, Dr Paul Chan Swee Mong, Dr Alfred Loh Wee Tiong, Dr Tan Tian Cho.*

SITTING (Left to right): *Dr Lim Kim Leong, Dr Frederick Samuel, Dr Victor L Fernandez, Dr James Chang Ming Yu, Dr Gabriel Chiong Peck Koon*

(Inset): *Dr Wong Heck Sing.*

What constitutes general practice/primary medical care

Dr Fred Samuel,
MCGPS; FCGPS
Past-Chairman, Undergraduate Education Committee,
College of General Practitioners, Singapore*

Definition:

General Practice is best defined as the provision of primary, personal, comprehensive, preventive and continuing total health care to individuals, families and those with whom they interact in family, occupational and social environment. It looks after an individual's physical, psychological and social well-being.

If the need arises the primary care physician can request for relevant investigations, ask for ancillary medical help like medical social workers, physiotherapists, dieticians and occupational therapists, etc., and if in doubt he shall seek a second consultative opinion. He will know ***when*** and ***how*** to intervene through treatment, prevention and education and promote the health of his patients and their families. If the patient needs secondary or tertiary care like surgery or radiotherapy the family physician shall refer him to the appropriate specialist/consultant.

Definitions such as these are clear and concise but there are weaknesses, as many of the concepts contained are derived from informed opinion and need formal study and proof. In considering the discipline of General Practice/Family Medicine, emphasis will be placed on those things that are specially peculiar to general practice, realising always that, as with other specialities, there are areas of over-lapping.

In a nutshell, it is a discipline in ***breadth*** consisting of the disciplines of: Adult Medicine, Psychological Medicine, Paediatrics, Obstetrics and Gynaecology, Minor Surgery and Occupational Medicine. Other ultra-specialities that contribute to our discipline are E.N.T., Ophthalmology, Dermatology and Emergency Medicine. A reliable study has shown that an overwhelming majority of the total morbidity is seen outside hospitals, and therefore, it is essential for you to get a complete picture of the total morbidity by a clinical attachment to General Practice. Various studies have shown that a significant percentage of medical students become General Practitioners/Primary Care Doctors. Therefore, since it will form the career of the majority of students it is essential that they get an insight, exposure and learning experience at undergraduate level to get their orientation and perspectives right.

A unique feature of General Practice discipline is the ***continuing care*** from infancy to death, in contra-distinction to specialist hospital Medicine (secondary and tertiary care) which is episodic and therefore only periodically touches the top of the ice-berg of the total morbidity status of an individual and indeed in the whole community.

There are four distinct components of General Practice:—

(i) General Practice as a Health Service
(ii) Processes of General Practice
(iii) The illness content of General Practice
(iv) The skills of General Practice.

I GENERAL PRACTICE AS A HEALTH SERVICE

The General Practitioner, also known as the Family Physician or the Primary Care Physician, is the most important practitioner in the Primary Care Health System which includes health centres, out-patient services, polyclinics, maternal and child welfare clinics, school health clinics and primary care units in hospitals (A&E Units) and General Practices in the private sector. In general, primary care doctors are outside the hospital, whereas secondary care doctors like physicians, surgeons, paediatricians are inside hospitals; so are tertiary care doctors like nuclear medicine specialists. The fact that they are doctors of first contact, and spend an average of 5 to 6 minutes per patient, and that there is an unselected mix of patients in General Practice — all of these factors have a profound effect on the doctor and patient behaviour and the internal medicine model of information seeking interviews the students are taught in hospital orientated traditional

* A lecture delivered to third year medical students of the University of Singapore.

Medicine.

The following chart indicates some of the differences between these three levels of health services:

LEVELS OF HEALTH SERVICE

	Primary	Secondary	Tertiary
Access	Direct	Referral	Referral from specialists
Site	Community	General Hospital	Intensive Unit/ Hospital
Illness	Common Undifferentiated	Specific	Very specific, rare
Equipment	Simple & low cost	Variable	Complex and very expensive
Training Required	Total Broad & General	Specific Specialised	Narrow and intensive
Relations ships	Highly Developed Life time	Variable Desultory	Not developed

II PROCESSES OF GENERAL PRACTICE

The term is used to describe the doctor/patient relationship in different clinical situations. In General Practice, these relationship activities are highly significant and are a major influence in the outcome of many clinical situations in which the doctor intervenes. Traditional medical education emphasizes knowledge and skills, which itself is important, but tends to neglect attitudes as being too threatening and difficult to define and teach. In General Practice, the emphasis is on whole patient diagnosis and management, the **holistic approach** and the **doctor's caring role,** whereas in hospital based practice, the emphasis is on an anatomical-pathological model of diagnosis and technology.

The following is a list of processes which are important components of the discipline of General Practice:—

1. **Perspective** with regard to the incidence, prevalence and the natural history of the disease. The patients present to their General Practitioners for a variety of reasons some of which bear marginal resemblance to the traditional concepts of disease. A useful classification of patients into four basic categories are:— (i) well, (ii) worried well, (iii) early sick (iv) sick.

(i) **Well patients** — Those who present for so called social or administrative reasons like processing of certificates or in response to therapeutic directions i.e. insurance examination, seeking particular preventive services like Cervical Smear in response to health education.

(ii) **Worried well patients** — These present for a check up for a specific fear i.e. heart disease or a normal body function with suspicions of a disease, e.g. feeling faint or a tension headache.

(iii) **Early sick patients** — These present for the first time with an episode of an illness in its initial stage, which constitute a diagnostic problem or a collection of problems — this is a great challenge in General Practice.

(iv) **Sick patients** — These present with an established diagnosis or multiple diagnoses. There is no doubt about their symptomology and therefore therapy becomes the most important component of care.

After the Family Physician has sorted the patients into these categories, further definition of problems and management will depend on —

(i) his knowledge of normality, development and disease in the particular patient and in the community,

(ii) his understanding and knowledge of epidemiology and the natural history of disease. Then he sorts out problems, ***allocating priorities with a high index of suspicion,*** particularly where there is a paucity of physical signs, and consciously makes a **probability diagnosis.** He further uses **time as a diagnostic tool** by perspective gained from formal study of disease patterns, supported by a period of exposure in General Practice with a large number of patients. In addition, any departure from common modes of presentation and departure from expected response to the usual management will alert the GP for a reappraisal of the probability diagnosis — supported by selective lab. tests. This is in contrast to the hospital management of patients.

2. **Early recognition of more serious diseases**

In view of the fact that the General Practitioner functions at the primary care level, and therefore patients have easier access to him than other levels of care, he is often confronted with illness at a much earlier stage than are his specialist colleagues. It is therefore a particular challenge to identify illness presenting at a stage in which the classical patterns are not clearly recognised, sometimes often being ill-defined, and signs marginal, if present at all. This "pre-classical presentation" sometimes of serious illness, requires a development of an index of suspicion, which is a faculty sharpen-

ed by experience. This experience is based on the doctor's knowledge of the epidemiology of the disease, the natural history of common illnesses and his knowledge of the normal status of his patients. Thus, departures from common modes of presentation and expected response to usual management, may suggest a reassessment of the doctor's first thoughts and actions is required. Early diagnosis is further complicated, and made more difficult, by the unselected mix of patients so characteristic of General Practice.

3. Problem definition in undifferentiated illness

Here, the patient presents with individual symptoms like insomnia or a group of symptoms which include psychological and social factors, the underlying nature of which may be quite unclear. This latter type of presentation is known as undifferentiated illness. In short, the GP has to define problems, and this is particularly so in the less well defined illnesses, referred to as "undifferentiated illness".

4. Whole person diagnosis and management

A medical aphorism declares that treatment must be preceded by diagnosis. But what sort of diagnosis? The traditional diagnosis is illness-centred, and is basically aimed at naming illness. This appears to transfer the illness from unknown to the known, and has a therapeutic effect in lessening anxiety in the patient as well as in the doctor. The main problem of traditional diagnosis is that it has little to say about the person complaining, because it is defined in terms of disease. Thus, a truly comprehensive diagnosis (whole person diagnosis) includes two elements:—

(i) the illness-centred diagnosis and
(ii) the patient's centred diagnosis.

The traditional diagnosis is concerned only with the pathological condition and is usually derived from the "internal medicine model" of history taking and examination (detective type of interview). This diagnosis has limitation, for example, it provides a prognosis based on statistical probability but not a personally unique prognosis. The patient centred diagnosis comprises details about the patient as a person, his life style, his family, his environment, all of which may be known to the General Practitioner. In addition, the doctor needs to reach an understanding of how the patient feels about his illness and, on occasion, how the doctor feels about it. Thus, a comprehensive diagnosis includes the traditional diagnosis, plus statements referring to the patient's relationship (including that with the doctor), and to the specific anxieties connected with his symptoms and signs. (i.e. cultural beliefs associated with his disease, especially in a multicultural sociey)

The term "patient management" is mostly commonly limited to a prescription of drugs, or the conduct of some procedure, and results from the illness centred diagnosis. In General Practice, however, management is whole patient management, and results from a whole patient diagnosis. Thus, management includes also the attention to the patient's expectations, fears, misunderstandings and pre-conceived attitudes to his own diagnoses.

5. Continuing care

This is unique of General Practice in that it covers a span of time and is not restricted to any one illness which is characteristic of hospital/specialist practice. Therefore this obviously modifies the doctor's behaviour in the way history is taken, in that, past history, social history, family and environmental history, being already known, may appear to the casual observer to be neglected.

6. Emergency care

The definition will depend on who is defining it. Formal teaching of students concentrates on the medical definition (illness centred), but in General Practice it is the person seeking help who defines it (patient's centred). Only a very small number of medically defined emergencies would occur normally in any General Practice, but every day, there is some-one who feels the need for urgent help. The common concept of emergencies is an organic one but the cause is often emotional, or of social origin. The General Practitioner has to learn to understand the patient's feeling of urgency, and the cure by simple reassurance may not be simple at all, but can require great skill and understanding. Despite this, the General Practitioner must be available and organised to cope with the medically defined emergency when it comes.

In dealing with a specific emergency, the doctor adopts a different approach. Instead of taking a history and performing an examination in the usual way, this is replaced by a technique of rapid assessment and immediate management. The usual approach to clinical problems is carried out after the emergency has been dealt with.

7. Rehabilitation and care of the chronically ill

The aim of rehabilitation is to restore the pa-

tient to his normal life style, or as near to it as possible. This may be by a process of care, or by teaching the patient to adapt to his changed situation. Specific rehabilitation measures for a variety of illness may be carried out in institutions or by other health professionals. The role of the General Practitioner is not only to provide specific therapies and support for the patient and his family, but also to mobilise other agencies and specialists and allied health professionals as the need arises. Although rehabilitation is the idealistic aim for the management of patients with chronic illness, this is not always possible, and the General Practitioner has a major role in assisting the patient to ***adapt*** to a new mode of life, not just physical, but also psychological and social. In day to day practice, a large number of patient contacts are made with those suffering long term and permanent chronic illness. Such patients include those suffering from hypertension, arthritis, diabetes, depression and ischaemic heart disease.

8 Care of terminally ill

Two events, births and deaths, are shared by all doctors and patients alike. It is probably this reason, and a failure to come to terms with the prospect of our own death, that doctors have tended to avoid the emotional involvement often engendered in our relationship with the dying patients. It is true that the care of the dying is a role which falls on many doctors, but is particularly so in General Practice. The total management of the dying patient starts with the diagnosis of the terminal illness. The patient needs to be told three things: (i) What is wrong with him?, (ii) What is the likely outcome?, (iii) What can medical science offer?

A doctor needs to support the patient through the stages of resentment, depression, fear and acceptance, which are characteristic. In addition, to the ***sensitive*** management of patient, the General Practitioner may be involved in many practical issues which require solution, as well as being involved with relatives and friends of the patients. There is no doubt that this is a difficult area for the doctor and particularly so with students. In practice, however, simple personal involvement allows the doctor to use his own personality as a therapeutic and in an effective manner.

9 Preventive care, including screening and patient education

It is undoubtedly true that the greatest challenge to Medicine, and the area where significant advances in the future are most likely to be achieved, is the area of disease prevention. It is unfortunately true, however, that Preventive Medicine has a low priority in the actual practice of Medicine by doctors. This is being remedied by Government Policy.

The General Practitioner is well situated to teach prevention, both by the attitude he takes to patient's management and by the example he sets. Successful preventive programmes are few in number at the present time. The following is a classification of prevention in General Practice:

(a) **Specific preventive measures** — the immunisation for infants and children is an obvious example. Most mothers are well aware of the need for such programmes. But consistent reinforcement is required from the patient's doctor.

(b) **Screening** — Performing cervical smears is well accepted by younger women, and screening for hypertension is now often carried out as a preventive measure. The carrying out of screening procedures on well patients in General Practice, is helping to create a preventive attitude in doctors and patients.

(c) **Illness Education** — This is most effective when practised at the time of consultation on a personal basis, as the audience is captive and has a vested interest in the current problem. The goal of education about illness is to teach patients greater self-reliance, and so reduces the dependancy on the doctor.

(d) **Health education** — The doctor's role as a health educator has only recently been discussed, and is still rather controversial. Traditional medical practice (including General Practice) is not structured in a way which easily facilitates a change in emphasis from curative medicine to health promotion. This is one of the areas where new initiatives in General Practice are needed.

III ILLNESS CONTENT OF GENERAL PRACTICE

Historically, it can be said that specialities have evolved largely by a process of fragmentation of General Practice. It is therefore easy to appreciate that there is some overlap between General Practice and many of the specialities. General Practice is a special discipline in its own right, and as such, it is best thought of as a **speciality in breadth,** whereas the traditional specialities (which, incidentally, are themselves currently undergoing fragmentation into sub-specialities) are best considered

as specialities in depth. Although the elements of all the specialities are a legitimate part of General Practice, some specialities, in terms of volume of cases are still as much the province of the General Practitioners as that of the specialists themselves.

The most important of them will be considered under the following headings:

(i) Behavioural Specialities
(ii) Procedural Specialities
(iii) Age defined Specialities
(iv) Minor Specialities — (a) Ophthalmology
(b) ENT
(c) Dermatology

(i) **Behavioural Specialities**

These can be divided into three components —

(a) Psychiatric disorders
(b) Psycho-social disorders
(c) Psychosomatic Disorders.

Although specific psychiatric disorders, such as schizophrenia are encountered from time to time in General Practice, most disorders in this group are best categorised as psycho-social problems. In fact, a large percentage (variously quoted up to 40%) of the illness seen in General Practice has a significant psycho-social component.

The General Practitioner sees the results of stress on the health of his patients. Much anxiety and depressive illness is caused, or aggravated, by non-medical factors produced by an increasingly complex society. General Practice is concerned in a major way in the management of such disorders. These can masquerade as physical illnesses, and present with physical complaints, such as tiredness, dizziness, headache, etc.

The General Practitioner's understanding and knowledge of the patient's background should enable him to demonstrate the psychosomatic component in almost every illness presented to him.

(ii) **Procedural Specialities**

There are two main sub-divisions in this category: Obstetrics and Surgery. Ante-natal care and normal delivery are undertaken by some General Practitioners, depending upon their inclination and experience.

A significant amount of minor surgery is still performed by General Practitioners, although the trend is one of decline, more rapidly in the urban area than in the rural areas. However, all General Practitioners are confronted with cases of trauma — bone, joint, and soft tissue — the care of which is well within the competence of any properly trained General Practitioner. These include simple fractures, not involving surgical reduction, sports injuries, occupational injuries, lacerations, dislocations, foreign bodies, etc.

(iii) **Age defined Specialities**

Patients/doctor contacts are more common, at each extreme of life, although in individual practice the age distribution of the local community will largely determine the actual content of the practice. Those practitioners who undertake significant Obstetrics will be involved in post-natal paediatrics, and most practitioners will be involved with children particularly of pre-school age. Problems include infections, trauma, behaviour disorders, and situations which reflect mainly the problems of parents. With increasing age, the patient develops more illnesses, as well as fear of illness, together with the special complicating problems of old age, resulting from isolation, rejection, financial insecurity and retirement. As a result of the increasing number of elderly patients in the population at large, particularly females, the importance of this component of General Practice is emphasised.

(iv) **Minor Specialities**

There are three in particular, namely — Dermatology, ENT and Ophthalmology.

One criticism raised against the exposure of the undergraduate to General Practice is that the pathology is so diluted that worthwhile exposure, in-depth, cannot be expected. Whilst it is true, that hospital type of pathology is relatively uncommon, the dilution is due to the inclusion of different sort of wide spectrum pathology, seen in general practice, and which is not commonly seen in hospital practice, i.e. colds, coughs, bronchitis, sinusitis, musculo-skeletal pains, headache, vertigo, gastrointestinal upsets, functional neurosis; contrast this to hospital type of pathology like malignancies, cardiovascular disorders, acute abdomen, meningitis, encephalitis, abortion, complications of pregnancy — APH, PPH, etc.

VI SKILLS OF GENERAL PRACTICE

General Practice as already described, is almost a complete health service in its own right, whereas, the individual specialities are separate segments of secondary or tertiary level of health care. This factor is a major reason why General Practitioners

require some skills which have previously been regarded as non-medical. Thus the skills of General Practice should be considered under two headings:—

(i) the medical skills
(ii) non-medical skills.

Medical Skills are —

(a) basic clinical skills
(b) interviewing skills
(c) diagnostic skills
(d) therapeutic skills
(e) procedural skills

General Practice conforms with all other disciplines of medical practice in that it requires a **sound base in clinical Medicine** especially in history taking and clinical examination. The internal medicine model is most appropriate, but requires modification in general practice based on time constraints, facts gained in previous consultation and continuing care, cost of tests in relation to the economic status of the larger, poorer segment of society. Therefore, acceptable, but ***accurate*** short-cuts in history taking and clinical examination, with ***essential*** investigations, will be demonstrated from time to time by your clinical teachers so that a balanced exposure, perspective and orientation is achieved.

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THIS I WANT ...

Miss Tan Siew Choo,
4th Year Medical Student,
University of Singapore.

I want to cure the cold of unfeeling,
To treat the numbness of apathy,
To dissect away
the superficial layers of false pretense.

I want to inoculate the spirit of man,
with a strong dose of humility,
To patch up quarrels
in an operation of forgiveness.

I want to detect unhappiness,
and destroy it with joy.
And, in a total transfusion
replace fear with an unshakeable hope.

I want to irradiate
all the cells of the tumour of hate,
With rays of love
of a million rontgents.

This I want,
To give what I receive,
To receive what others can give,
For I want to really live.

Thus we receive,
The vibrant spirit of youth
Reaching down to our marrow,
A rejuvenation for tomorrow.

Editorial note: The last verse in italics is mine. This poem is a token of appreciation to Dr. Lim Kim Leong after this year's posting of medical students to General Practice.

The antenatal, natal and postnatal factors producing handicapped children

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There is no period of childhood more hazardous than the first few days of independent existence yet progress in the early days and the child's future development are much influenced by events of foetal life and birth itself. Only by regarding the infant's antenatal, natal and postnatal life as a whole can one see the true picture. It is essential for all doctors to be capable of making a competent examination of newborn babies, of recognising ill-health, and congenital defect at the earliest possible time and of dealing with problems that demand immediate action.

Sometimes these conditions are not obvious at birth and becomes noticeable only as the child grows older, in which case developmental assessment of children by infant welfare clinics is necessary to detect these handicaps early. By preschool age, these handicaps and training programmes are organised just like normal children. We will now consider some of the antenatal, natal and postnatal factors producing handicapped children.

Definition of certain terms

1. A full term baby is one born between 37 and 42 weeks of gestation.
2. A preterm (premature) baby is one born before 37 weeks from the first day of the last menstrual period.
3. A post-term baby is one born after 42 weeks or more. The premature baby is unripe when born, whereas the small for date baby is ripe but is small for its gestational age. The premature baby's systems are not fully developed but the small for date babies are fully developed but weak.

Low Birth Weight and Prematurity

Investigators found a significant excess of prematurity and complications of pregnancy and birth in the histories of individuals afflicted with cerebral palsy, epilepsy, mental deficiency, behaviour disorders, reading disabilities, strasbismus, hearing disorders and autism.

Premature babies may represent the abrupt termination of a pregnancy complicated by an already imperfect relationship between mother and foetus. Foetuses which are primarily defective are more likely to be born before term and are often responsible for a complicated pregnancy.

Survivors of low birth weight are at much greater risk than full term infants of severe neurological, mental, sensory or other defects. Prematurity has been implicated in such serious hazards as epilepsy, severe mental retardation, autism and serious mental illness.

Special Problems Associated with Small for Date Babies and Premature Babies

1. Feeding

All premature and small for date babies are poor feeders. Yet it is important to feed these infants properly, because they need calories. To provide calories they need to be tube fed and the size of the feeds must be increased as rapidly as the infant will tolerate them. Satisfactory weight gain may not be seen until the infant receives as much as 150 calories per kilogram per day. Ideally all premature, small for date and normal babies should be breast fed. This is vitally important because unless the right type of food is provided for the infant, the infant will not receive the right type of nutrition required for the growth of the brain cell. Under-nutrition in the foetus will lead to intrauterine growth retardation and poor brain development.

Neonatal Hypoglycaemia

This disorder implies a low blood sugar in the infant, and has been recognised as a hazard in the newborn in recent years. The normal blood sugar in the newborn is low compared to normal infants. Symptoms are rarely seen until the level falls to 20mgm%. The first symptoms are irritability, pallor and reluctance with feeds. Frank

twitching proceeds to generalised convulsions later. There is a danger that hypoglycaemia may cause brain damage and it is necessary to recognise and treat the condition as early as possible. The best way to prevent hypoglycaemia is early feeding. Mild hypoglycaemia can be treated by frequent feeds with added glucose: more severe forms require intravenous dextrose.

Slow Growth

Most small for date babies are hungry and gain weight well. A few behave as if permanently adjusted to slow growth. They feed poorly from birth and appear to have small food requirements. They grow slowly and their weight and height increase parallel to but below the 3rd percentile on growth charts. As growth patterns and intellectual patterns are largely determined very early in life, every effort should be made to achieve good weight in the neonatal period.

Brain Damage

The preterm brain is a soft organ, almost fluid and the blood vessels within and around it have very delicate walls. The forces to which the foetal skull and its contents are exposed in normal labour may be sufficient to ensure brain damage to the small baby. Preterm babies develop a severe anaemia when two to three months old. The anaemia can be prevented by giving prophylatic iron supplement.

Jaundice

Jaundice or yellow discoloration of the skin occurs in all preterm babies. It arises because the liver enzyme glucoronyl transferase which is required for the conjugation of bilirubin prior to its excretion is poorly developed in the newborn. Bilirubin levels from 15 to 18 mgms% in the preterm child may give kernicterus, particularly if the baby is hypoxic at any stage.

PRENATAL CONDITIONS

The most important fight that the newborn baby has in the antenatal and immediate postnatal period is to combat infection. The newborn baby is equipped with limited defence mechanism against infection. Such immunity is gained from the transfer of IgG immunoglobulin from the mother in the last trimester of pregnancy. The prenatal infections which one should look for in the mother and baby are:—

(1) congenital syphilis,
(2) congenital rubella syndrome and
(3) other virus infections like cytomegalic inclusion body disease.

Congenital Syphilis

Congenital syphilis is not much of a problem as all mothers have blood taken for a Kahn test at antenatal clinics. Any baby who is seen to have snuffles, an enlarged liver and spleen, jaundice, anaemia or skin lesions will get a Kahn test done, and treated with Penicillin if positive.

Congenital Rubella Syndrome (German measles Syndrome)

Ever since 1961 when Gregg first showed the association of congenital defects in infants delivered from mothers with rubella during pregnancy, rubella in the newborn has gained a lot of interest. The rubella virus has been shown to infect the foetus or embryo via the placenta as a result of maternal viraemia which occurs one week after exposure to the virus in the first three months of pregnancy. The clinical features of the rubella syndrome consist of a small for date baby, an enlarged liver and spleen, receding chin, congenital heart disease, deafness, cataract, skin and bone lesions. It will be seen, therefore, that rubella virus does not produce a single defect but affects multiple systems. The three prime defects are mental retardation, deafness and blindness. Hence, it is necessary for teachers and all workers of handicapped children to have a well versed all round knowledge of all types of handicap. Cataract due to rubella can be treated by needling the cataract, so that these children will be partially sighted children where special methods of teaching are required. Rubella deafness is a high frequency deafness and many of these children present with a speech defect – being unable to hear the high pitched sounds like "f", "th", "s", "pth", etc. If picked up by developmental screening tests these children can be fitted with hearing aids and with intensive speech therapy they would be able to cope in a normal school. The haemagglutination titre is helpful in the confirmation but is not diagnostic of the condition. Isolation of the virus is 100% diagnostic. A newborn baby who has the rubella syndrome is highly infectious because he excretes the virus in the urine and stools. Any pregnant woman who comes in contact with the virus can become infected and the foetus may be born with the congenital rubella syndrome. Hence, all pregnant nurses have their blood done for haemagglutination titres before they are allowed to nurse such babies. Hence, prevention of rubella virus is very important and this can be achieved by innoculation of H.P.V. 77 vaccine to young teenagers and young females who have no antibodies against rubella. Prevention of rubella syndrome is more important than spending vast sums of money in treating rubella syndrome as the

treatment programme of rubella affected children is life long.

NATAL FACTORS –BIRTH INJURY

The term "birth injury" is used in respect of physical injury as distinct from hypoxia (lack of oxygen). Sometimes hypoxia may cause capillary damage leading to intraventricular haemorrhage and haemorrhage resulting from tears of the membranes in the brain leading to damage to the respiratory centre. If the bleeding is massive, nothing can be done and the baby usually dies. If the baby survives minor degrees of cerebral haemorrhage the child will remain spastic and mentally subnormal. Instrumentation used in difficult labours like vacuum extraction can also lead to cerebral haemorrhage and damage to the baby.

Perinatal Asphyxia

Before birth, the foetus is dependent for his oxygen supply upon:—

(a) a normal oxygen tension in the mother's blood,
(b) a healthy placenta firmly attached to the uterine well.
(c) unobstructed blood flow through the umbilical vessels.

After birth, the newborn baby depends on:—

(a) a functioning respiratory centre.
(b) a patent airway and
(c) healthy heart and lungs.

Interference with one or more of these functions is likely to lead to hypoxia either before birth or immediately afterwards. Lack of oxygen before birth is recognised by signs of foetal distress while the baby is in utero in the diagnosis of which a very rapid heart and meconium staining of the liquor are necessary. After birth, lack of oxygen is recognised by alterations of the pulse, respiration, tons, reflex irritability, and a special scoring system called Agpar rating. A score of 7 and above indicates that the baby is satisfactory. A score of 3 and below indicates lack of oxygen and death. Scores of 4 to 5 indicate the needs for simple measures eg. clearing the airway by suction and administration of oxygen. Morphine or pethidine given to the mother during labour will also depress respiration.

All these factors which affect the baby before and after birth are very important because when he recovers, he looks quite normal. But as the child grows older developmental asessment will show some abnormalities. These may be minor but sufficient to produce learning difficulties during school-age, hyperactive children, children with minimal cerebral damage, children with perceptual difficulties and the like which school teachers have to cope with.

Immediate Post-natal conditions

Neonatal hyperbilirubinaemia or the yellow baby syndrome is a major problem in this country because it can lead to bilirubin toxicity (ie. staining of the brain) with bilirubin called kernicterus. About 80% of infants with kernicterus die and of the survivors nearly all end up as cerebral spastic with varying degrees of mental retardation. About 43% of those who die with kernicterus are associated with glucose-six-phosphate dehydrogenase (G6PD); deficiency, an enzyme deficiency. G6PD is a red blood cell enzyme which is necessary for the stability and integrity of the red cells. Babies born with deficiency of this enzyme will undergo haemolysis of the red cells when external trigger factors are given eg. Chinese herbs, drugs like aspirin and phenacetin for fever and moth-ball applied to clothes. It is well known in this country that mothers, particularly among the Chinese take herbs, eg. yellow bark with ginger and chicken and wine in the belief that this will strengthen the mother during pregnancy. G6PD deficiency is a sex-linked condition, ie male babies lack this enzyme while females are carriers, (usually the mother is the carrier). The significance of neonatal jaundice in causing mortality is exceeded by the tragedy resulting in those who survived the kernicterus episode. The mental retardation is extreme and such unfortunate children impose a great load on the family and national resources in their aftercare. All this happened because the serum bilirubin rose too rapidly for exchange transfusion to be effective.

It is therefore, important to identify those families at risk before and immediately after the baby was born to prevent the initiation of trigger factors by education of the parents and isolation of the baby during the critical period by setting up a practical yet inexpensive method. Since 1964, all newborn babies born at government hospitals are tested for G6PD enzyme using cord blood and are kept in the hospital for 21 days and all trigger factors are withdrawn. Family studies are done and all siblings and parents of affected children are screened for this enzyme. Those found to be deficient are given a list of drugs to avoid. Should the newborn baby show a serum bilirubin above 20 mgm%, a timely exchange transfusion is done. In this way, our mortality from kernicterus is now very low and our morbidity is also reduced. About 400 babies a year are being saved from mental subnormality and physical abnormality. Families

where enlightenment in the form of education fails because of disbelief, often take these babies home against medical advice. The names of these babies are immediately transmitted to the Maternal and Child Health Clinic nearest the home and daily visits are made till the earliest signs of critical jaundice appears when the baby is sent to hospital for prophylactic exchange transfusion. This fall-back mechanism has saved many babies who would otherwise have died or become mentally retarded. Thanks to this project (Wong 1966) we have been spared the necessity of annually educating 400 mentally handicapped and physically handicapped children. There are other causes of jaundice, eg. ABO incompatibility and rhesus incompatibility and in Western countries, the problem of rhesus incompatibility has been overcome by prophylatic injections.

Congenital Malformation

About 2% of all babies are born with serious congenital defects, sufficient to threaten life and to cause permanent handicap. Defects of the brain and central nervous system count for more than half. A knowledge of the causes of congenital malformations are important in their prevention. A small number are due to rubella or German measles, fewer to teratogenic drugs, some due to deep X-ray therapy and ionising radiation. Genetic factors are important in conditions like achrondroplasia (where the baby is born with short limbs) and congenital dislocation of the hip and talipes (where the baby is born with deformed feet). Other factors include drugs in particular thalidomide which is known to produce absent limbs (amelia). Thalidomide babies are intelligent but are physically handicapped because of absent limbs. Anti-epileptic drugs are also known to produce multiple congenital deformities. Poor socio-economic conditions and maternal age are other factors contributing towards congenital defects.

Chromosomal Abnormalities

In man, there are 46 chromosomes, 22 pairs of autosomes and one pair of sex chromosomes. All the chromosomes are arranged in pairs and are in a balanced karyotype. Chromosomal abnormalities involving the large chromosomes are not compatible with life and end up as spontaneous abortion. Medium sized and small chromosomal abnormalities are compatible with life and can be diagnosed at birth. The commonest of these is Down's anomaly or Mongolism, which is due to an extra chromosome 21 or trisomy 21. In Singapore the incidence is 1/800 births, a frequency no different from western countries. In the majority of the mongols the mechanism is due to non-disjunction which is a chance event, but is more likely to occur in elderly parents. However, mongolism can be inherited in parents who themselves are balanced translocation, D/G and G/G translocations being the commonest. Usually the mother in this type of mongolism is young. Under these circumstances the risk of another mongol child being born is high, being 25%. This is one type of genetic disease where if the mother is already pregnant, amniocentesis and culture of the amniotic cells will tell us whether a foetus is affected or not and therapeutic abortion offered, if it is.

Besides translocation mongols, there are other chromosomal disorders which are also inherited although they are less common. The babies of such inherited chromosomal disorders are usually translocation or mosaic (ie. some cells are of normal chromosomal constitution and others abnormal). The parents are phenotypically normal because they are either balanced translocation or they are determined by the normal components of their mosaicism. However, they may pass on their translocated chromosome without its balanced partner or may pass on the abnormal component of their mosaic chromosome constitution. Some examples of these are E and D trisomy and inherited cri-du-chat and translocation mongols. In all these, the genetic risks are high and foetal karyotyping by amniocentesis can determine whether a particular foetus is affected or not.

Genetic Counselling

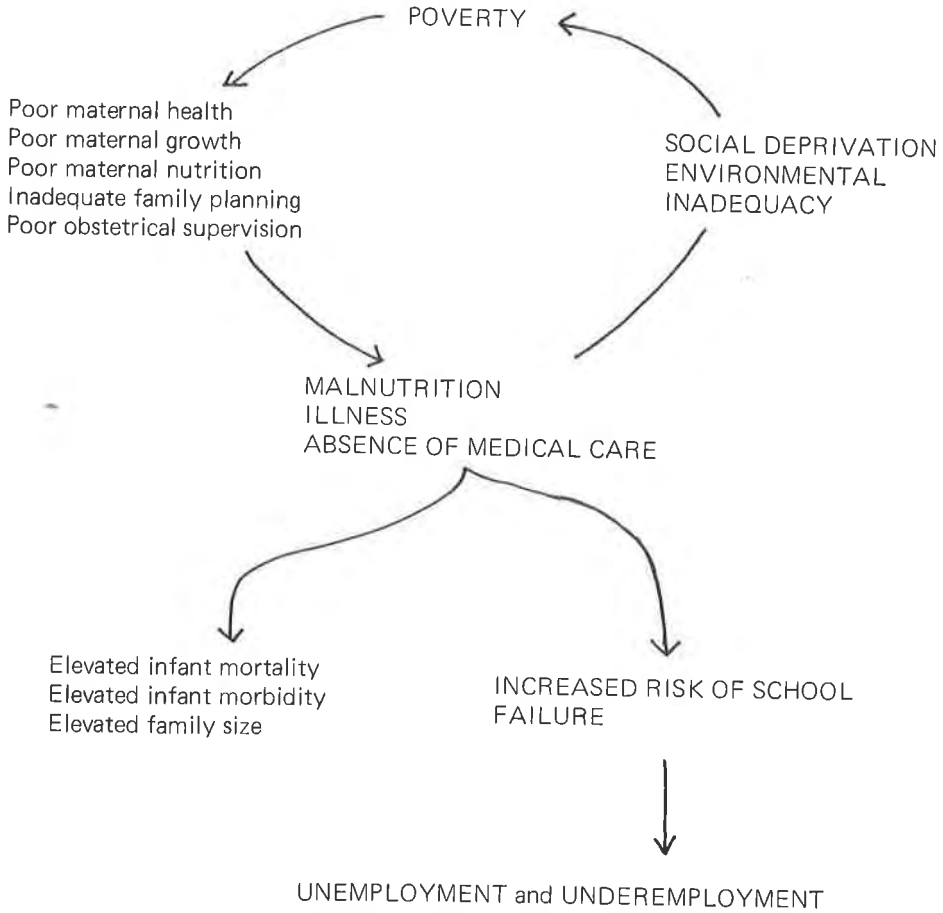
Once a genetic disease has occured in a family, eg. mongolism or microcephaly it is important to prevent similar conditions occuring in the same family. The genotypes of the parents are determined and the risk for another affected offspring in a future pregnancy are explained carefully to the parents. In microcephaly, the risk of a similarly affected child being affected will be 1 in 4. Generally, risks greater than 1 in 20 are relatively high. Removal of the amniotic fluid for examination of sex chromosomes autosomes or biochemical analysis will decide whether the foetus is affected with the genetic disease and if so an abortion may be carried out. The next step is to help other members of the family who may also possess the abnormal gene since it is already present in the parents of the affected baby. Genetic counselling is then offered to the relatives so that they can take appropriate preventive action. In this way, we have been able not only to cut

down the births of babies suffering from dangerous genetic diseases but also have been able to educate the family in understanding their diseases, and actively plan to prevent or allay the onset of disease manifestations. It must be realised that there are many genetic diseases which only manifest themselves when the environment is suitable. It is in the interest of the family to see that this environment is not provided.

Poverty, Malnutrition and Educational Failure

Burt's classic "Backward Child" describes factors like minor ailment, under nourishment and poverty affecting children. In Singapore, Foong (1971) tried to see if there was any relationship between somatic growth as presented by height and weight and academic performance in schools as assessed by the results of the primary VI examination of 1970. He used heights and weights as indirect indices of nutritional status in 1128 examinations of school children. Foong (1971) stated that the low weights of the boys and the poor academic performance could have been due to malnutrition from infancy. Many ESN children fall into this category.

Environmental factors play a very important part in the progress of the child. Lack of material at home in the form of books and education equipment will not only affect progress at the preliminary stage but also affect success and studying power in secondary education. The following diagram illustrates how poverty produces educational failure:—



Assessment of handicapped children

A handicapped child is defined by Sheridan as one suffering from any continuing disability of body, intellect or personality likely to interfere with normal growth, development and capacity to learn.

Definition of assessment

Assessment is the appraisal of the child's handicaps and abilities and the use of this information to plan their future (Holt 1965).

Assessment can be divided into three parts:—

(a) **Diagnostic stage**
This is the stage when the child is seen for the first time and a detailed clinical and family history, physical examination and investigation are necessary. Children who have some defect are likely to have multiple handicaps. The term defect and handicap are different. A defect is a fault in structure and handicap is how it affects his development and growing up. It does not follow that a child with a defect will be handicapped.

(b) **Interpretation stage**
The second phase is the interpretation stage, i.e. what all this means to the patient. This interpretation means collecting all the information and analysing the data.

(c) **Planning Stage**
The planning stage is to collect the information and interpret this and draw out a plan of continuing care. New problems are always creeping in so that long-term continued care is vitally essential.

Factors Affecting Handicapped Children

The factors which affect the handicapped child have been summarised by Holt as follows:—

1. **Development Pattern**
Normally in children there is a smooth integration of development which makes the whole process easy and smooth. Children who are handicapped show distorted patterns of development eg. a handicapped child who is physically handicapped will be unable to explore the environment and, therefore, unable to explore the experiences for the development of speech.

2. **Family of handicapped children**
The second factor to consider is that handicapped children cannot be considered in isolation. One must think of them as families with handicapped children because the problems of handicapped children will affect the family, the school and the community. Further parents need considerable help in the handling of handicapped children.

3. **Scientific Planning**
It is essential to have scientific planning as sympathy alone will not solve the problem. The churches and the voluntary organisations initiated the care of handicapped children in most advanced countries until gradually one realised that trained personnel and scientific planning was necessary in the care of handicapped children. The assessment of vision, hearing, the assessment of psychological techniques are all necessary to solve the child's learning difficulties. One must apply all this scientific material in making an assessment of the child.

4. **Continuity of Medical and Educational Care**
Fourthly, continuity of medical and educational care is necessary as the problems of the handicapped child cannot be solved at one sitting and this continuous care is just as important as initial assessment.

5. **Teamwork**
Finally, there must be a teamwork in the care of handicapped children, as doctors, nurses, teachers, social workers, physiotherapists, occupational therapists, speech therapists and parents and parents are all concerned and must communicate with each other in a meaningful manner. This effective team work is essential for the care of the handicapped child.

Prevention of antenatal, natal and postnatal factors producing handicapped children.

In a survey of 2,962 mentally subnormal children during a ten year survey from 1963 to 1972 (Paul 1974) prenatal, natal and postnatal factors accounted for 19.5% of all clinical categories in Singapore children. By screening all newborn babies for glucose-six-phosphate dehydrogenase deficiency, there has been a marked reduction of deaths due to kernicterus (Wong 1975) and what is more important, a marked fall in morbidity, namely spasticity and mental subnormality. Control of mosquito breeding in rural areas has caused a reduction in environmental conditions like Japanese B encephalitis. The BCG vaccination of almost all newborn babies has caused a reduction in turberculous meningitis, which

formerly produced mental subnormality. Rubella vaccination is offered to teen-aged girls and it is hoped that this will control the rubella syndrome, which produces multiple handicaps.

Thus, we see that by controlling the environment and by genetic counselling, one can prevent the prenatal, natal and postnatal factors, producing handicapping conditions in children.

Analysis of the factors accounting for mental subnormality in Singapore children shows a marked drop from 19.5% in 1963 to 7% in 1977. (Paul 1977). In spite of preventive measures one would still be left with a group of handicapped children where the cause is unknown. Hence developmental assessment of these children is important.

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Memory, Reasoning & Exams...

"There are two very distinct qualities of the human mind: memory, and the power of reasoning. The earliest to be developed is that of memorizing, and this can be cultivated with great ease. The power of reasoning is quite different, although, no doubt, memory takes a part. When we look at a great number of students, we discover that this power of memory is greatly developed in a few, and that all our educational methods are devoted to its cultivation. Examinations are specially contrived for the purpose of discriminating those with the best memories, and to them all the honours and prizes are given.

The individuals who, on the contrary, possess more of the power of reasoning than their fellows, receive no consideration. There are minds which have a difficulty in remembering isolated facts, but if these facts are related in some consecutive manner, they can not only remember them, but also appreciate their bearing on one another. But this type of mind is slow in acquiring knowledge, and in our present-day methods of education less and less encouragement is given to this type of student. His peculiar powers are never developed, and their presence is never suspected.

The outcome of the teaching of to-day is to hail the student with superior powers of memorizing as the brilliant student, and the one with the great future. The consequence is that his patch from the outset is made easy for him. Bursaries and scholarships fall to his share, and before he has acquired any experience, he is appointed to a teaching post. In the absence of any knowledge acquired from the results of his own observations, he is forced to teach that which he was himself taught, and, as he cannot discriminate between truth and superstition, he hands both on to his students. As years pass he comes to believe what he has taught is true and may even grow impervious to new ideas which are contrary to the beliefs he has been expounding."

Sir James Mackenzie.

Surgery of the Liver, Gall-Bladder and Bile Ducts: Diagnosis and Management

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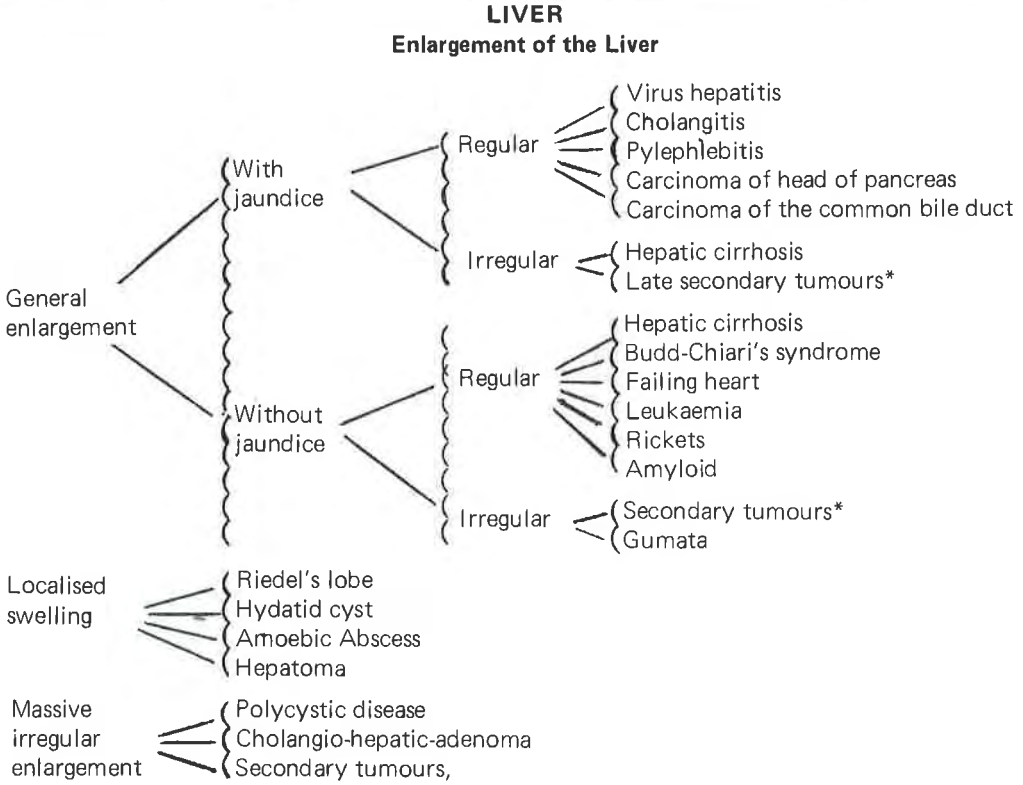


*In Singapore add primary hepatoma to wherever there are secondary tumours.

Cholangitis

Infection of the radicles of the biliary tree within the liver. In its mildest form may occur as a result of infection spreading from the gall-bladder in acute cholecystitis. It may be secondary to obstruction by stone or stricture in the common bile duct, or secondary to ascending infection from "by-pass surgery", example: cholecyst-duodenostomy or choledochoduodenostomy. It can go on to suppurative cholangitis which may lead to multiple abscesses in the liver – micro and macro. It may also present as gram negative septicaemia with positive blood culture which may be fatal.

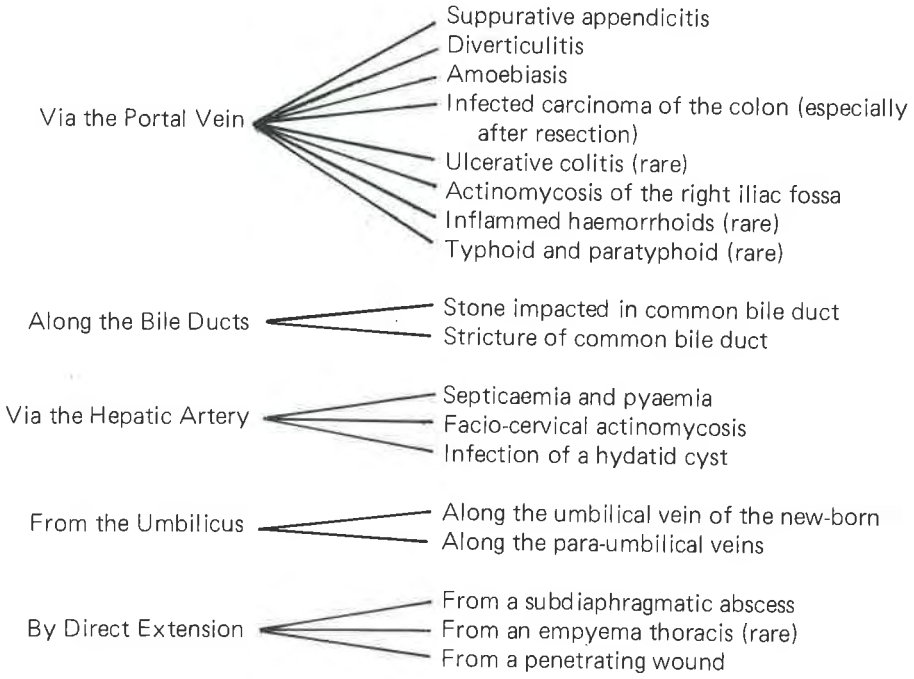
Pylephlebitis or portal pyaemia – can arise from suppurative disease in any part drained by the portal system, but commonest as a complication of appendicitis, diverticulitis, or very rarely infected thrombosed piles. Thrombophlebitis of small vessels at the site of infection may spread to larger vessels and from there embolisation to liver by pieces of infected thrombus.

Clinical features – high fever, repeated rigors, diarrhoea and moderate ascites. Goes on to jaundice with enlarged tender liver. Blood culture positive in 50% of cases. Very rare these days.

Treatment – Blood culture and sensitivity test. While awaiting results start on broad spectrum anti-biotics like Gentamycin. Even Poly Pharmacy is warranted. If infection by bacteroides – metronidazole.

Liver Abscesses

Causes of Abscesses of the Liver



Amoebic Liver Abscess

Pathology – Entamoeba Hystolytica from Focal Lesion in the colon via portal vein to liver – colonises and causes liquefection necrosis. 70% solitary, 30% multiple. Pus characteristically is chocolate coloured (anchovy sauce) due to mixture of broken-down liver cells, leucocytes and red cells. Sometimes green if mixed with bile. In 50% of the cases there is secondary infection with strept or E coli. Fine E histolytica in about half of the cases, rest usually sterile. But if you use the last few drops of the pus withdrawn or scrape the walls of an abscess at operation, more likely to get positive results.

Course

1) Stage of amoebic hepatitis, probably micro abscesses present but may resolve with specific treatment.
2) Abscess formation with enlargement of the liver and needs drainage – aspiration or open drainage.
3) May become encapsulated and lie dormant for years.
4) Unrecognized and untreated may burst into the right lung, peritoneal cavity, right pleural cavity or rarely into hollow viscera or even point subcutaneously.

Clinical features

Usually young male. History of recent dysentery – rarely long history of months or even years. Occasionally no dysentery. Early symptoms are anorexia and loss of weight; later pyrexia specially at night with rigors and profuse sweating. Pain in the liver area and referred to the right shoulder. Tender enlarged liver with basal lung signs.

Diagnosis

Fresh stools for microscopic examination and culture, Haem agglutination test and immunofluorescent test for amoeba antibodies. Liver scan using radio-active rose bengal or technetium – recently C.T. scan. This is very good for livers.

Treatment

Ameobicidal drugs first and then if there is abscess, drainage – either aspiration or open.

Portal Hypertension

Causes → Pre hepatic
Intra hepatic
Post hepatic

Pre hepatic – 20%, mostly children. There may be a congenital absence or abnormality of the portal vein or there may be thrombosis of the portal vein due to extension of the normal obliterative process of the umbilical vein. Sometimes associated with omphalitis and also there is this danger if one uses the umbilical vein for a drip in the neonate. The collateral vessels form a sort of cavernoma in the region of the portal vein (Cavernous transformation of portal vein).

Intra hepatic – 80% due to cirrhosis.

Post hepatic – rare. Constrictive pericarditis, tricuspid incompetence, Budd-Chiari syndrome – obstruction of hepatic vein by neoplastic encroachment, also associated with clotting diseases specially polycythaemia and hormones given for contraception and infertility, obstruction of the suprahepatic portion of the inferior vena cavae. Acute form seen in Jamaica caused by certain plant extracts used in herbal teas.

Collateral circulation

1) **Eosophageal varix** – eosophageal branch of the left gastric and systemic eosophageal vein. Important because of haematemesis and maelena.
2) **Caput medusae** – para umbilical vein and superficial veins of anterior abdominal wall.
3) **Haemorrhoids** – rare – anastomosis between superior and middle and inferior rectal veins. Cirrhotics can also have piles like other people.
4) **Silent** – retroperitoneal veins – tributaries of superior and inferior mesenteric veins, and sub-diaphramatic and retroperitoneal veins.

Eosophageal Varix – Remember there is a gastric component which is often more important because the bleeding may be coming from this. They rupture because of either a sudden rise in intra-abdominal pressure – example straining at stools – or carrying heavy things; or the mucosa may be abraded by a rough bolus or excoriated by acid regurgitation.

Diagnosis

1) **Radiology** –Barium swallow specially with buscopan. Splenic portography or superior mesenteric angiography.
2) **Eosophagoscopy or gastroscopy** – This must always be done to be sure that the bleeding is from the varix and not from some other source like an ulcer.
3) **Surgery – Only indication for surgery in portal hypertension is bleeding.** Otherwise treatment is always medical. No such thing as prophylactic shunt, because this is often deleterious.

Porto-systemic encephalopathy (Ammonia intoxication):–

Neuro-psychiatric disturbances seen in severe liver damage and frequently develops after shunt operations and hence the reason why shunts are not done except for bleeding.

Causes: three factors → Diversion of portal blood
Deteriorating liver cells function
Haemodynamic changes

Not only is ammonia formed by the urea splitting organisms but the bacterial flora of the large gut also degrades protein of the diet and these toxic products are normally detoxicated in the liver. Now they pass directly to the systemic circulation.

So treatment: (1) Decrease dietary protein
(2) Change the bowel flora
(3) Prevent absorption from the colon.

Even if good liver function you cannot prevent porto-systemic encephalopathy. Persons who fare worst after operation are those who have the greatest reduction in the liver blood flow. So shunt operation only for a fit and young person without evidence of serious liver damage and only for haemorrhage.

NEOPLASMS OF THE LIVER
Incidence from 1968 to 1970 per 100,000 population

Chinese		Malays		Indians		Others		All races	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
31.5	6.9	13.5	7.2	10.9	2.5	6	10.2	27.1	6.1

Benign	Haemangioma Hepato adenoma Cholangio adenoma	Rare and forget about it
Malignant	Hepato carcinoma Cholangio carcinoma	Very much less common

Hepato Cellular Carcinoma – highest incidence in the world is in Africa. Mozambique area. As you know very common here, usually occurs in cirrhotic livers and very often multicentric in origin. Also remember intra-hepatic metastasis. Hepatocellular carcinoma in a normal liver is not so com-

mon and these are the ones which may be rarely suitable for surgery.

Clinical features – All ages, including children, but most common around 30 to 50. Anorexia, loss of weight and asthenia.

On examination – large liver with either enlarged localised swelling confined to one lobe or there is an irregularly enlarged liver with multiple nodules over the surface. Often the patient presents with a heaviness in the right side of the abdomen and with a mass which he has felt himself. Some present as an acute liver abscess and sometimes patients present in shock with signs and symptoms of intra-peritoneal haemorrhage.

Diagnosis:– Clinical, Alphafoeto protein positive (normal in foetus from six weeks to a few weeks after birth).

Arteriography – A hepatic arteriography; radioisotope scanning; C.T. scan; peritoneoscopy and liver biopsy.

Very few are operable and mainly chemotherapy.

GALL BLADDER AND BILE DUCTS

Physiology

Bile consists of 97% water; 1 to 2% bile salts and 1% pigment, cholesterol and fatty acids mainly lecithin.

Bile salts are usually sodium and potassium salts of the bile acids. The two primary bile acids – cholic acid and chenodeoxycholic acid. These are conjugated with glycine or taurine. Liver excretes bile at about 40 cc per hour and in the resting phase because the sphincter of Oddi is closed, the bile is stored in the gall-bladder. Here it is concentrated 5 to 10 times by the absorption of water, sodium chloride, bicarbonate. There is also a change in pH. Liver bile is 8.2, the gall-bladder bile is 7.6 to 7. Whether cholesterol is excreted by the gall-bladder is still controversial. Mucus is also added to the bile by the gall-bladder. When the acid chyme and fat enter the duodenum cholecystokinin is secreted (by the duodenum) and this causes contraction of the gall-bladder and relaxation of the sphincter of Oddi.

Investigations

Radiological:–

1) Plain X-Ray; 10% radio opaque.
2) Cholecystogram – no use in acute cholecystitis and when serum bilirubin is more than 3 mg%. Also contraindicated if renal function is poor. If there is diarrhoea or vomiting the dye may not be absorbed and you get false results. Usual dyes – telepaque-biloptin and solubiloptin.
3) I.V. cholangiography with or without tomography – 20 cc of biligrafin is injected very slowly – danger of hypersensitive reaction. Per-operative cholangiography: per-operative post-exploratory and post-operative T-tube cholangiography.
4) Endoscopic retrograde cholangio-pancreato-cholangiography (E.R.C.P.)
5) Percutaneous transhepatic cholangiography (P.T.C.)

Choledochal Cyst

A congenital dilatation of common bile duct. Seldom affects the common hepatic and cystic duct. More common in female although congenital, seldom presents before 6 months. The cyst can contain up to 1 to 2 litres of fluid. The cyst wall usually has no lining epithelium and shows inflammatory changes.

Clinical features:– Recurrent attacks of right hypochondrial pain sometimes with fever and jaundice. The jaundice may be very minimal and occasionally totally absent. Sometimes presents in childhood as a case of failure to thrive and a large mass in the hypochondrium. It is very occasionally shown up in a cholectystogram.

Treatment:– By surgery. Either choledocho – jejunostomy roux-en-y to cyst itself or excision of the cyst and choledocho-jejunostomy.

Gall Stones

Cholesterol	6%
Pigment	12%
Mixed	80%

Cholesterol:– Usually single, oval or round; when pure is light in weight and light in colour.

Pigment stones:– Black, range in shape and size and often putty like masses.

Mixed:– Multiple (different families), facetted by pressure and friction with each other, frequently the gall-bladder is packed with stones. The cut surface is usually laminated.

Causes → Metabolic, Infective, Bile stasis

Metabolic:– Cholesterol is insoluble in water. It is maintained in solution by what is called micellar solubilization. The cholesterol, phospholipid and bile salts associate in a large water soluble polymolecular aggregate. This molecular association is

known as a "mixed micelle". Normal ratio of bile acids to cholesterol is 25:1. Critical level for precipitation is 13:1. Reduction of one or all of the bile acid may be related to dietary factors – for example, excessive succrose intake, liver damage, disease or removal of the ileum which interferes with the enterohepatic circulation of bile acids. Polya partial gastretomy and locally gall-bladder stasis or infection. Pigment stones haemolysis in haemolytic anaemia, acholuric jaundice, septic haemolysis and malaria.

Infective:– Infection reaches the gall-bladder via the blood stream from focus elsewhere – example: tonsils, teeth, bowel; from the bowel via lymphatics – there is exfoliation of the mucosa cells which forms nidus. Rarely there may be round worm ova or other parasites in the bile duct.

Bile stasis:– Common in pregnancy and this rather than hypercholesteraemia may explain the increased incidence in multipara. Or the solubility of cholesterol may be disturbed in some way.

Effects and Complications of Gall-Stones

1. **In the gall-bladder**
   - Silent stones
   - Flatulent Dyspepsia
   - Gall-stone Colic
   - Mucocele
   - Acute cholecystitis → perforation → peritonitis; gangrene; penetration → fistula; empyema
   - Chronic cholectystitis → acute cholecystitis
   - Carcinoma.
2. **In the bile ducts**
   - Obstructive jaundice. Liver Failure. White bile
   - Acute or recurrent pancreatitis.
   - Cholangitis.
3. **In the intestine**
   - Acute intestinal obstruction.

Silent stones:– May be discovered accidentally when x-rayed for some other purpose (eg.BMX), but always advise operation because of likelihood of complications. 112 cases were followed up in Mayo Clinic and 51 developed symptoms within a few years. Straight forward cholecystectomy carries a very low mortality and morbidity. However, once there are serious complications due to the stone then the mortality and morbidity rises steeply.

Flatulent Dyspepsia:– Feeling of fullness after meals, belching, heart burns – usually diagnosed as peptic ulcer – may be present and hence must always include peptic ulcer, hiatus hernia and chronic pancreatitis.

Gall-stone Colic:– Sudden excruciating pain across the upper abdomen, may shoot to the back or between the shoulder-blades. Sometimes the patient rolls in agony like an intestinal colic with vomiting and retching. Usually occurs at night when lying in horizontal position the stones go into the neck of the gall-bladder. If the gall-stone is shown by the subsequent investigations always advice cholecystectomy even though only one attack.

Dissolution of Gall-stones

One gram of chenodeoxycholic acid per day for cholesterol stones only.

Indications for Chenofalk-Therapy according to Wolpers (30)

Suited	Unsuited:
1) Multiple or solitary cholesterol stones	1) All pigment stones.
2) Solitary cholesterol stones with diameter up to 20 mm.	2) All calcium-rich cholesterol stones.
3) Multiple cholesterol stones with a stone volume of up to 50% of the gall-bladder content.	3) Too big a stone volume in the gall-bladder.
	4) All patients with cysticus occlusion.
	5) Solitary stones with a diameter of more than 20 mm.
	6) Choledocholithiasis.
	7) Partially contracted gall-bladder.
	8) Adenoma myomatosis or polyps with stone.

At present patients with radiolucent gall-stones and functioning gall-bladder who have a high operative risk as well as in cases of refusal of a necessary cholecystectomy.

Contraindications

Radio-opaque calculi, non-functioning gall-bladder, frequent colics, cholecystitis, incomplete or complete choledochus occlusion, cholangitis, chronic hepatitis and liver cirrhosis, inflammatory diseases of small intestine and colon, cholestyramine administration at the same time.

Marked kidney insufficiency and starvation diet.

At present, one further contraindication is still pregnancy since possible damage to the embryo cannot be excluded with certainty. Women at the age of parity, therefore, should ingest CHENOFALK only during simultaneous contraceptive administration.

Side effects:– Small percentage transient rise in transaminase values – diarrhoea – recurrence if treatment is stopped, hence may have to continue for life.

Acute Cholecystitis

1) Obstructive
2) Non obstructive

Obstructive – Stone is in Hartmann's pouch or cystic duct. The gall-bladder especially if already the seat of chronic cholecystitis, becomes intensely inflammed. The mucous membrane become swollen and the wall thickened – gangrene occurs

in patches. Subsequent events are:—

1) with conservative treatment the stone may get disimpacted as the gall-bladder distends and the inflammation may resolve.
2) it may go on to empyema.
3) it may perforate either at the fundus because of the poor blood supply or at the neck because of the pressure necrosis. This leads to:
   a) local abscess
   b) general peritonitis — very uncommon
   c) internal fistulae — stomach, colon (both rare), usually duodenum and you may get intestinal obstruction which is called "gall-stones ileus".

Non obstructive — less frequent, varies from mild catarrh to gangrene, seldom perforates except may be in typhoid.

Clinical features — Although in general in six Fs — fat, fertile, flatulent, female of forty to fifty — still holds, no one is immune even children. The onset may be sudden, severe pain in the obstructive variety and more gradual in the non obstructive. There may be nausea, vomiting, fever and in bad cases even rigors.

On examination — there is tenderness and guarding in the right hypochondrium. If you can make him relax usually you find a palpable gall-bladder or a mass.

Differential diagnosis — high retro-caecal appendix, very difficult to differentiate from and leaking duodenal ulcer and acute pancreatitis.

Obstructive Jaundice

1) Stones in common bile duct (Cholangio-hepatitis)
2) Stricture of the common bile duct < benign / malignant
3) Carcinoma of the head of pancreas
4) Carcinoma of the peri-ampullary region.

Stones in the common bile duct — May originate in the gall-bladder or rarely in the common bile duct. These range from large concretions to sludge. May have a nucleus around which bile pigments and cholesterol get deposited — ascaris ova, liver flukes.

Clinical features:— Usually long history of flatulent dyspepsia and episodes of biliary colic. Pain as already described before. Jaundice within 48 hours of the pain, pale lemon to dark orange. Urine is dark with bile, faeces become pale; there is pruritus, loss of weight. As a rule the gall-bladder is not palpable.

Charcot's triad — fluctuant jaundice, recurrent pain and intermittent fever with rigors. The stones become impacted, then float free as the duct distends and then impact again.

Cholangic hepatitis — This is a form of obstructive jaundice due to stones in common bile duct, with special features. It is almost exclusively a Chinese disease in this country, but the whole of the east coast of the eastern hemisphere from Japan down to Indonesia and the Philippines. Nobody knows the etiology. The pathological features are as follows:—

The common bile duct is dilated 3 to 4 times its normal size and is usually packed with stones and biliary mud. The dilatation may include the intra hepatic ducts and this also may be full of stones. There are sometimes strictures in the intra hepatic ducts. In the worst form there is pyogenic infection of the ductal system with micro and macro abscesses of the liver. The infection is probably superimposed on obstruction. The gall-bladder is usually quite normal except for the associated infection and is usually dilated and tense with no stones in it. The stones are probably formed in the liver and the common bile duct, often associated with clonorchis infestation in Hong Kong, but this may be a coincidental factor rather than ethiological. Sometimes we have found round worm ova in the local cases. So probably this is an infection or infestation of the intra biliary ductal system which leads on to stone formation and obstruction with secondary infection superimposed. And hence the team Cholangio-hepatitis, or as Sheila Sherlock calls it Asiatic or Oriental Cholangio-hepatitis.

Clinical features — Occurs at all ages even children. There is the usual Charcot's triad which I have already dealt with — pain, jaundice with fever and rigors; sometimes patient presents with a very toxic picture and even in shock due to B coli septicaemia and unless they respond to treatment may succumb.

Besides clinical differences, the main reason for separating this condition from the ordinary stones in the common bile duct is because of treatment. Whereas for the ordinary stones in the common bile duct plain cholectoctomy and removal of the stones will be curative, in this case such an operation will not suffice. You cannot remove all the stones and mud that are present. Moreover, even if you do, the chances of recurrence is very high. So the only thing possible is to ensure adequate drainage of the common bile duct and this is done by a choledocho-jejunostomy Roux-en-y.

Stricture of the common bile ducts < Benign / Malignant

Benign < Postoperative 80% / Inflammatory 20%

Postoperative, usually common hepatic duct or the right hepatic duct traumatised at operation and ends up with a stricture.

Inflammatory:—

1) Pooling of bile round the common bile duct after insecure ligation of the cystic duct or if the common bile duct is improperly drained.
2) Stricturing may follow cholecystectomy or choledochotomy when the mucus membrane is very acutely inflammed.
3) Stenosing cholangitis of usually the hepatic duct — unknown etiology.
4) Oriental cholangio-hepatitis

Carcinoma of the bile duct < Intra hepatic / Extra hepatic

If the stricture is above the cystic duct the gall-bladder is not distended. If below the gall-bladder is distended and palpable. It may be diagnosed by P.T.C. or E.R.C.P. but usually is recognised only at operation for obstructive jaundice. Usually is inoperable and some form of palliative by-pass may be done.

Carcinoma head of the pancreas and peri-ampullary carcinoma — Usually it is scirrhous, gritty and fibrous in appearance. Sometimes it may be small in size (because it is in the region of the common bile duct compressing it and causing symptoms)/ In less than 1/3 of the cases the neoplasm arises from the duodenal papillae ampulla of Vater or in the duodenal mucosa adjacent to the papilla. Hence the name peri-ampillary. Classically said to present as painless progressive jaundice. But pain may be a feature. It is usually a dull ache in th right side and epigastrium radiating to the back; but it may even be colicky like a typical gall-stone. The jaundice is progressive in the head of the pancreas but in the case of peri-ampillary carcinoma it may undergo necrosis and slough off and hence there might be a transient decrease in the jaundice in which case it may simulate gall-stone obstruction. Other symptoms — anorexia, diarrhoea, stools — pale, bulky and foul smelling due to pancreatic deficiency, pruritus, loss of weight. Gall-bladder usually enlarged and palpable. Liver may be enlarged due to biliary obstruction or secondaries.

Investigations — Radiology:— BMX shows a widening of C loop of the duodenum. There may be a reverse 3 sign in the periampullary carcinoma due to filling defect. There may be occult blood in the stools. Diagnosis may also be by P.T.C. and E.R.C.P.

Treatment — For periampullary carcinoma Whipple's operation; for carcinoma of the head of the pancreas occasionally Whipple's operation but usually a palliative by-pass; cholecyst-jejunostomy or choledocho-jejunostomy with a gastro-jejunostomy and a side to side jejuno-jejunostomy.

Two important aspects of jaundice I wish to stress.

(1) The diagnosis between the various types of jaundice is not as it seems cut and dry.
(2) The surgical relief of obstructive jaundice should be undertaken early.

PATHO-PHYSIOLOGY OF JAUNDICE

(I) Jaundice becomes visible when bilirubin reaches 2 to 3 mg.%.

85% of bilirubin derived from the break down of haemoglobin in R.E.S. Other 15% is "shunt bilirubin" and formed in part in bone marrow as by-product of haemoglobin synthesis; in the liver by rapid turn over of haemoprotein such as cytochromes and catalases.

Bilirubin bound to albumin in blood, to liver in this lipid soluble complex. This cannot be excreted in urine or taken up by the liver. Complex somehow dissociates at the plasma membrane of hepatocyte and enters the cell. Here accepted by specific binding proteins. In the endoplasmic reticulum conjugated to diglucoronide (enzyme involved is glucuronyl transferase) which is water soluble. Then secreted into bile canaliculi with lecithin, bile acid and salts, water, trace, amounts of calcium and other electrolytes and mucus — biliary apparatus — duodenum. Here glucoronide split and bilirubin converted to urobilinogen by bacterial action. Some entero-hepatic circulation; some urine; some urobilin (Stercobilin) to faeces.

So jaundice caused by:—

1) increased rate of production of bilirubin
2) decreased uptake by liver cells
3) derangement in conjugation with glucoronide
4) impaired secretion into bile canaliculi and biliary tract.

Excess Production

Haemolytic anaemia. Because bilirubin bound to albumin can't pass the glomerular filtrate and so acholuric jaundice. Also can't pass blood brain barrier and no effect on C.N.S. Also pernicious anaemia — some haemolysis and increase in "shunt-bilirubin" in bone marrow. Massive pulmonary haemorrhage or infarction. Bleeding into gut or massive haemorrhage in any site.

Reduce Hepatic Cell Uptake

Genetic disorder, Gilbert's disease. Certain untowards reactions to drugs. Unconjugated bili-

rubin bound to albumin and so acholuric.

Impaired Conjugation of Bilirubin

Conjugation defect of genetic origin – Crigler-Najjar Syndrome (Total or severe lack of glucoronyl transferase). In some cases of Gilbert's disease. Neonatal immaturity of conjugating mechanism.

Impaired Excretion of Conjugated Bilirubin (Cholestasis)

Cholestasis means failure of normal amounts of bile to reach the duodenum.

Excretion of conjugated bilirubin may be hampered or blocked at any level from hepatocyte to ampulla of vater.

Intra hepatic Cholestasis – medical jaundice.
Extra hepatic Cholestasis – surgical jaundice

Intra hepatic Cholestasis

Dubin-Johnson and Rotor Syndrome are hereditary disorders in which there is defect in transfer of bilirubin and other organic ions across the hepatocyte membrane. Drugs such as estrogen, certain contraceptive agents, anabolic steroids in some patients. Disorganisation of the hepatic lobule as in cirrhosis causes intra hepatic cholestasis. Direct damage to liver cells which affects the enzyme system as in viral hepatitis, chemical and drug toxicity, and microbiologic infections of liver can block conjugation and excretion of bile. So jaundice is associated with all forms of acute insult to the liver, which seriously damage liver cells. Also in all acute insults to liver cells, swelling may add an element of intrahepatic obstruction with regurgitation of conjugated bilirubin to the blood so get both unconjugated and conjugated hyperbilirubinaemia. In general all these associated with raised S.G.O.T., S.G.P.T. and L.D.H.

Extra hepatic Cholestasis

All surgical causes – gallstone and carcinoma commonest; less commonly cholangitis, congenital anomalies with atresia or agenesis of extra hepatic duct. In all these cases rise in conjugated bilirubin. Bile fails to reach intestine. Stools loose their colour. Urine urobilinogen levels decline and disappear. Bile salts accumulate and get pruritus. Absorption of fat and fat soluble vitamins defective. Avitaminosis K. Prothrombin level falls. Plasma cholesterol rises. And so patients accumulate lipid-laden histiocytes within skin causing xanthomas. Early changes conjugated hyperbilirubinaemia with raised serum alkaline phosphatase and normal S.G.O.T., S.G.P.T., and L.D.H.

In later stages damage to liver cells and element of hepato-cellular disease added on to obstruction. So hyperbilirubinaemia is both conjugated and unconjugated.

In summary, although haemolytic jaundice is rather easily identified, it is frequently extremely difficult to distinguish between hepato-cellular jaundice during the obstructive phase and obstructive jaundice during the hepato-cellular phase. Even liver biopsy is sometimes of no help.

Most physicians think time is on their side while diagnosis is being made. A delay will allow parenchymatous disease or drug induced jaundice to improve or become more obviously non-obstructive in character; while patients with obstruction are **thought** to be unlikely to come to any harm as a result of waiting for a few weeks – usually 6 weeks.

Early changes after obstruction

Conjugated bile is water soluble and so excreted in the urine. So bilirubin rises to a plateau and levels off – 12 to 15mg%. Production by liver and excretion by kidney of the bilirubin reaches a balance and so O.K. for sometime. In hepato cellular disease the raised bilirubin is mainly fat soluble unconjugated type and so rises steadily up. Other Lab. tests in obstructive jaundice may also show mild changes. Albumin is near normal level. Transaminase level remain low for weeks.

Late changes

Eventually obstruction causes gross cellular damage and the bilirubin rises – unconjugated type. Serum albumin falls. A sharp rise in transaminase levels and goes on to hepato cellular type of jaundice.

No way of knowing when one stage passes into the other. If the operation is delayed there is a considerable fatality rate following surgical relief of obstruction, even when this is caused by benign conditions like gall-stones. Even if he does not die it is likely that biliary cirrhosis is already developing and removal of obstruction will not prevent permanent damage to liver. So there is a need for early operation in obstructive jaundice and no room for complascence. There must be early consultation between surgeon and physician.

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Surgery of the Large Intestine, Rectum and Anus Diagnosis and Management

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It would be a fair comment to state that most diseases of the large gut that are in the province of the surgeon, owe their successful treatment to the vigilance of the general practitioner and to his awareness of their existence. In the practitioner's diagnostic armamentarium a cardinal asset is a high index of suspicion. The reason for this is that the symptomatologies and signs are not always as obvious as they may seem. For example, a carcinoma of the colon – particularly of the caecum – may present as a case of anaemia. Early evidence of mild intestinal obstruction may be passed off as an upset stomach due to dietary indiscretion. A simple diarrhoea may become the explanation for a change in bowel habits seen in carcinoma of the colon or rectum. The presence of obvious masses signify a later stage of the disease – though the lesions at this stage are by no means beyond redemption. Some results of treatment of malignant disease of the colon and rectum can be surprisingly good. On the other hand, what appears to be an early lesion may sometimes – as in other malignant disease – produce bad results. Much depends on the biology of the tumour and the primitiveness (anaplasia) of the cells concerned. One of the more sanguine aspects of dealing with malignancies of the large gut is that the diagnostic procedures such as modern radiological and endoscopic techniques are particularly revealing and helpful in this area.

Part of the reason for the relatively good results of treatment of malignancies of the large gut is the mobility of the structures lending themselves to radical surgery.

By far the most common and sinister disease affecting the colon is malignancy. It is worth noting, to begin with, that 70-75% of malignancies of the large gut occur on the LEFT side. The pelvic colon and the colo-rectal junction take pride of place.

It is interesting to note that in Orientals carcinoma of the lower alimentary tract as in the colon were less frequent than tumours in the upper alimentary tract in Europeans. Carcinoma of the oesophagus and stomach occurs much more frequently amongst Asians and less frequently in Europeans. Carcinoma of the colon of the large gut occurs much more frequently in Europeans and Americans. However, it would seem there is now some tilt in the balance. The same picture seems to apply to the incidence of inflammatory disease as well. For example, it was considered at one time that diverticulosis of the large gut was almost non-existent in Orientals. This particularly amongst the Chinese. Burkitt's work in Africa has shown that diverticulosis is also rare in Africans. He and other workers have attributed this to diets containing roughage – rice amongst the Orientals and maize or corn or meal amongst the Africans. These produce bulky stools which prevent the stasis of hard inspissated stools in the colon. It would seem that with the change of dietary habits the balance again will tilt the other way. Among Europeans diverticular disease is quite common. It has been estimated that 5-10% of the European population aged over 40 years are subject to diverticulosis. Most of these cases have no complications. On the other hand, not many surgeons in this country would have much experience of diverticular disease in the Oriental population.

This is an interesting reflection on the type of diet that people eat and its effect on colonic problems. For example, it is the impression amongst many surgeons and clinicians in Singapore that Tamil labourers who normally eat large amounts of par-boiled rice tend to develop sigmoid colons which are elongated. This tends to predispose to volvulus formation which is found much more commonly amongst Tamil labourers than amongst Chinese members of the population here.

ULCERATIVE COLITIS

Other diseases of the large gut are not often seen here although they seem to be not un-

common in European countries. Foremost among these is ulcerative colitis. It presents in two forms. A **fulminating** form with severe diarrhoea causing dramatic and progressive inanition in the patient and possibly death. Such cases can only be salvaged by urgent operation. This operation may be a simple ileostomy so as to isolate the large gut or a total procto-colectomy to stop the very telling effect of this diarrhoea on patients. The other presentation is in the form of recurrent acute attacks. The more **chronic** form of the disease can produce severe complications such as liver damage, iritis, arthritis, skin lesions, ankylosing spondylitis and anaemia. If the disease has gone on long enough 5-10% of these cases undergo malignant change which can be insidious in its onset. Treatment of the more chronic form calls for the cooperation of the general practitioner in a big way. Patients are kept under surveillance and recurrent acute attacks are treated by diet, sedatives and the exhibition of Salazopyrine. There is still considerable argument on the usefulness of prolonged steroid therapy. It might have distinct advantages during acute attacks. Chronic cases may finally require surgical intervention.

As we well know, ulcerative colitis has a rather important psychological background. It is really a form of gut irritation producing diarrhoea and cannot be attributed to any specific infective cause. No such cases were seen in Singapore at one time. However, there are reports now that some are beginning to appear and this may become a problem with us in future.

CROHN'S DISEASE (REGIONAL ILEITIS)

Another disease that was relatively rare in Singapore is Crohn's disease or regional ileitis. Some cases are seen from time to time but are unusual. The history of recurrent abdominal pains may mimic almost any other intra-abdominal condition and only barium studies and biopsy can clinch the diagnosis. Symptoms vary from mild recurrent colicky pains to overt intestinal obstruction.

In advanced cases they give rise to multiple perianal fistulae. These occur in other inflammatory diseases of the gut such as ulcerative colitis, actinomycosis and tuberculosis. Treatment of this condition consists mainly of a fluid high protein diet and other supportive measures. Antibiotics are used with caution.

If however, symptoms become severe and there is a suggestion of obstruction treatment has to be surgical. This is either resection of the affected segment or segments of gut or a bypass operation. There is considerable controversy as to which is the better operation.

TUBERCULOSIS

Tuberculosis used to be a very common condition affecting the large gut and vied with carcinoma of the caecum for first place in the diagnosis of a mass in the right iliac fossa. However, it is becoming relatively uncommon and for this reason one must be conscious of its occasional presence. Diagnosis is not always easy although some radiological impressions can be so typical that the diagnosis might be made with confidence. It always helps to find a primary focus, usually in the lungs. However, this need not occur as the large bowel (but almost specifically the caecum) can be affected by the ingestion of infected food. Treatment may be operative and eliminates the lesion. However, there is a place for conservative treatment with modern anti-tuberculous drugs if the diagnosis can be made with confidence.

ACTINOMYCOSIS

Actinomycosis is unusual now and its diagnosis can be extremely difficult because of its rarity. If it gives rise to fistula formation the typical sulphur granules may clinch the diagnosis. The lesion is best resected and the patient treated with massive doses of Penicillin or Tetracycline depending on the sensitivity of the organisms. Treatment has to be prolonged.

AMOEBIASIS

A common lesion at one time was the amoeboma. This was when amoebic dysentery was rife. Amoeboma can form in any part of the large gut. However, the most common site of affection was very often the caecum although lesions can be multiple. It is easier to suspect this condition than in the other granulomata because there is often a history of amoebic infestation if this is carefully sought. Treatment with Emetine or Flagyl or both can cause dramatic regression of symptoms and this in itself is diagnostic.

With fulminating disease patients can become extremely ill and lesions may perforate. The outlook in such cases is bad even with early and radical surgery and mortalities can be high despite treatment with anti-amoebic drugs.

TUMOURS OF THE COLON AND RECTUM

These tumours may be benign or malignant.

Benign Tumours

These are usually in the form of polyps commonly described as adenomatous polyps. The

villous adenoma is simply a different form of the same pathological process. These tumours are of importance in that some of them are potentially malignant. They often lie quiescent for many years. They may however show symptoms such as bleeding with the passage of slime. Occasionally low lying polyps may prolapse through the anal canal on defaecation. They are usually discovered when a barium enema is done or at sigmoidoscopy prior to haemorrhoidectomy.

These tumours should be kept under careful surveillance. When possible they should be removed through the sigmoidoscope. If colonoscopic facilities are available they can be carefully studied and in experienced hands, can be removed through the colonoscope. If the tumour is large and high lying and cannot be removed by endoscopic methods, it is excised at laparotomy by a colotomy or a limited colectomy.

Some forms of adenomatous polyposis of the colon however are a familiar disease and hundreds of tumours may be encountered sometimes throughout the colon as well as the rectum. As these polyps have a great potential for malignant change a total colectomy with or without removal of the rectum is indicated.

Progeny of affected parents are kept under surveillance and are examined regularly after the age of 10 years. These regular examinations should continue up to the age of 40 years. If they do not occur by that time they are not likely to have been inherited.

Malignant Tumours

It has been already stated that these tumours can only be diagnosed when a practitioner exhibits a high degree of suspicion. The early tumours do not manifest themselves clearly. Symptoms can be very vague in the early stages and include alteration of bowel habits in the form of constipation, diarrhoea or a combination of the two; the passage of blood or slime; abdominal pains; dyspepsia; flatulence and distension; audible borborygmi which may become embarrassing; or a palpable abdominal mass. Sometimes the only presentation is one of general ill health and loss of weight and anaemia. With these symptoms it is impossible to tell whether the lesion is medical or surgical or whether it is in the stomach or any part of the alimentary tract distal to it.

With carcinomas of the right colon bowel symptoms may be almost absent or there may be an occasional mild diarrhoea. However, the vague deterioration of general health and the loss of weight and anaemia should induce one to include such a lesion in the differential diagnosis. Occasionally there is mild abdominal pain in the right iliac fossa which may prove of value. The diagnosis is sometimes made by the presence of an abdominal mass in the right iliac fossa in an otherwise reasonably healthy patient.

In lesions of the left colon changes in bowel habits are met more often. Patients may take increasing doses of aperients and sometimes experience diarrhoea either from the lesion or from the effect of such aperients. The presence of blood and mucus is helpful. Recurrent attacks of abdominal colic which cannot be otherwise explained must immediately raise the suspicion of a lesion in this part of the colon and be investigated.

Carcinomas of the distal sigmoid or rectum are much more expressive, although they too may remain symptomless for some time. The most frequent symptom is bleeding per rectum which accompanies the motion or blood may be passed at stool. A single incident of passage of a fair amount of blood occurring for the first time should immediately raise one's suspicion. Such an event should not be passed off as due to haemorrhoids until a lesion has been excluded by special examination. A disturbance of bowel function should always be elicited even if it is not offered by the patient. Increasing constipation alternating with diarrhoea is a suspicious partnership. A constant feeling of incomplete evacuation of the bowels should also raise one's suspicions. The recurrence of this phenomenon many times a day then becomes a "spurious diarrhoea". Accompanying blood and mucus clinches the diagnosis. In all cases any alteration of bowel habits which persists for more than two or three weeks in a patient over 40 years of age should be under suspicion.

In suspicious cases the least that must be done is a rectal examination. This is productive not only when a tumour can be felt per rectum but when a tumour in the sigmoid colon can be felt through the wall of the rectum. Most important the faeces on the examining finger should always be inspected. The presence of blood and mucus should immediately raise one's suspicion. However, when blood is intimately mixed with the faeces this may not be so obvious. In such a case a peculiar coppery reddish-brown appearance of the faeces should lead one to further investigations. These will include sigmoidoscopy as well as a barium enema with air contrast studies.

The advantages that accrue from a digital rectal examination, a sigmoidoscopy and a barium enema far outweight any inconvenience they may cause.

Treatment

This consists of a resection either of the right colon or the left colon. In certain circumstances, especially with carcinoma of the hepatic and splenic flexure it may be necessary to do an extended colectomy where the whole colon up to the sigmoid colon is removed. It must be remembered that double carcinomas of the colon do occur and are not rare. In these circumstances, an extended or total colectomy may be necessary.

In carcinoma of the rectum the abdomino-perineal resection with the establishment of a left iliac colostomy is still the most practiced operation. This is especially so in low lying carcinomas. For carcinoma found at a higher level, especially those at the recto-sigmoid junction, the operation of choice is anterior resection where the sphincter is preserved and a low anastomosis done between the colon and the stump of the rectum. There has been a move in recent years towards doing more sphincter saving operations even for the more low lying carcinomas. This consists of a "pull through" and other operations. However, their value in terms of long term survival and anal competence is still to be assessed.

It is advisable for the practitioner not to discuss the need for a colostomy in patients with a carcinoma of the rectum. Many have refused to see a surgeon and some have turned up too late with lesions that did not require a colostomy. The decision on the need for a colostomy should be left to the surgeon.

THE APPENDIX

It would not be altogether out of place to mention the appendix on passing. It is after all part of the large gut complex.

The most common disease that affects it of course is inflammation – usually acute.

The diagnosis of acute appendicitis can be extremely difficult sometimes but less so if one keeps in mind certain cardinal symptoms and signs that occur in this condition. Confusion is often caused not so much by the fact that the disease does not manifest itself adequately but by the fact that the patient's presentation does not fit in with the text-book description of the condition.

The leading symptom is **pain** which is usually epigastric or umbilical. However, it may start in other parts of the abdomen such as the left iliac fossa. It may even start in the right iliac fossa. In some textbooks this site of origin is said not to occur. However, this has not been found so in the Singapore experience. This pain may be colicky in nature or dull and usually increases in intensity. In a carefully elucidated history, pain that starts somewhere else and radiates to the right iliac fossa is extremely suggestive. At the same time, one should try to obtain a history of vomiting. This may not be forthcoming and it is worth asking a leading question here. If there has been no **vomiting** one should try to obtain a history of **nausea** or **anorexia.** For the latter the questions should not be leading but suggestive. One should not ask "Have you lost your appetite?" but "Did you have your breakfast this morning?" or "Would you be interested in having a lunch of rice and curry"? Keeping in mind that nausea and anorexia are really sub-clinical symptoms of vomiting the presence of any of these three symptoms is therefore suggestive. The onset of pain with sudden and recurrent vomiting is an extremely important symptom and highly suggestive of obstructive appendicitis. Such a case should be treated with utmost urgency as perforation becomes imminent in a matter of hours.

It is worth asking the patient if he has felt feverish and whether he has had similar or almost similar attacks of abdominal pains previously and if so how often.

We then come to the important clinical signs:–

(1) **Temperature** – A mild temperature ranging from 99-101°F or a little over that is usually present.

(2) The **tongue** should always be looked at first. It is usually furred though sometimes only mildly in early cases and is accompanied by typical **foetor** which is best elicited while looking at the tongue and without asking the patient to breathe out as the foetor becomes diminished.

(3) The next and most important physical sign of all is **TENDERNESS.** This tenderness occurs over the site of the appendix. It may be high or low in the right iliac fossa or in the lumbar region. In the rare cases where the caecum is not properly descended it may be as high as the right hypochondrium. Where there is no tenderness in the abdomen, it can be elicited per rectum when a pelvic appendix lies low down beside the rectum.

These then are the signs and symptoms that really are the basis for the diagnosis of acute appendicitis – pain; vomiting, (nausea or anorexia); temperature; a coated tongue and foetor; and TENDERNESS. All other physical signs and symptoms really help more to determine the degree and variations of this condition.

The total white count takes time to become elevated. It may be normal in early cases and is therefore not a dependable finding.

Malignancy (adenocarcinoma) rarely occurs in

the appendix as can a carcinoid tumour (Argentaffinoma). As it is well known the latter secretes 5-hydroxytryatamine (HTM) especially if it has metastasized. Carcinoids of the appendix however rarely show a raised HTM and rarely metastasize.

ANAL CONDITIONS

There are a host of conditions that affect the anal canal and the perianal area that are seen by the general practitioner which lend themselves to ready diagnosis if one is aware of their appearances and evolution. This knowledge is valuable not only in making a diagnosis but in the help the practitioner can give in encouraging the patient to proper treatment and, sometimes, his invaluable aid in the postoperative care of these patients. Unfortunately, many patients dismiss all conditions affecting the anal area as "piles" which on examination may turn out to be anything from a skin tag to a carcinoma of the rectum or the anus. In a large number of these conditions what is required is a more than cursory examination of the perianal area followed by a rectal examination to elucidate the problem.

The main symptoms of these conditions are:—

(1) Bleeding. One should determine whether this bleeding is profuse, recurrent, or drips into the pan. Sometimes bleeding may even occur spontaneously when the patient sits down. The most minimal form of bleeding is soiling of the toilet paper.
(2) Prolapse. Here one should determine with care whether this prolapse requires digital reduction or is self-reducing.
(3) Pain
(4) Discharge
(5) Swelling
(6) Alteration of bowel habits
(7) Pruritus
(8) Loss of weight

The next and most important fact to determine is the patient's normal bowel habits as opposed to those at the time of examination.

Examination should include palpation of the abdomen. Rectal examination is absolutely mandatory as is proctoscopy. Sigmoidoscopy is invaluable but this is usually left to the specialists.

Mention has already been made of the importance of barium enema studies and, sometimes, colonoscopy.

It is important to stress to the older practitioners that there has been a great change in the management of anal conditions over the last 20 years or so. Rectal tubes surrounded by a massive pack of gauze are no longer used in haemorrhoidectomy. Nor are patients constipated 4 or 5 days as used to be the custom. The terrifying enemas to get these patients started again are rarely used. All these make the operation of haemorrhoidectomy much easier and more acceptable.

In the same spirit abscesses in the perianal area are no longer radically saucerized by massive resection of perianal skin. This makes towards a more rapid and smoother recovery following operation.

Haemorrhoids

These are probably the most common of anal conditions. Three degrees are recognised.

First degree where there is only bleeding and mild congestion of the pile bearing areas.

Second degree where there is prolapse during defaecation which is self-reducing.

Third degree where there is prolapse requiring digital reduction or where spontaneous reduction takes hours or even one or two days. It should be noted that in this degree also piles may be permanently prolapsed (interno-external). Occasionally they may prolapse when a patient is merely sitting down and not defaecating.

The decision to treat haemorrhoids conservatively or by operation is determined from the patient's history. Third degree piles always require operation. First degree piles are successfully treated by injections of 5% phenol in arachis oil although these injections may have to be repeated once or twice. It may be worth treating second degree piles (especially early one) by the injection method. They often carry the patient over a period but very often recur and develop into third degree piles.

Other methods of treatment such as cryosurgery and snaring with rubber bands can be useful in second degree piles. The results of treatment by dilatation of the anus (Lords procedure) are still being surveyed. There are encouraging features of this procedure in second degree and very early third degree piles.

Third degree piles prolapse. Sometimes a patient may not be aware of having piles until they have prolapsed and strangulated. Strangulated piles are now treated by early operation. They do however settle with conservative treatment when this is so desired by the patient. Elevation of the foot at the bed with mild aperients such as liquid paraffin and the application of Lotio Plumbi as very wet stupes is invaluable. However, all these patients should really come to operation when the strangulation has settled down.

Haematoma Ani

Both haematoma ani and strangulated piles are often referred to as an "attack of piles". A haematoma ani occurs suddenly and is due to the bursting of a small subcutaneous venule. It forms a small blue-domed bubble in one area of the anal verge. Very occasionally more than one may occur at the same time. It is extremely tender and excision of the surface of the dome with complete evacuation of the haematoma gives dramatic relief. However, if the haematoma has lasted for some days and the pain is no longer present, it is best left alone. At worst, it will result in a skin tag. The only advantage of incision is the immediate relief of pain.

Fissure-In-Ano

This is one of the most painful conditions in the anal region. An **acute** fissure usually occurs suddenly with the passage of scypalous faeces. Severe spasmodic pains accompanied by mild bleeding on defaecation are the leading symptoms. Acute fissures are best treated immediately either by dilatation of the anal sphincter under general anaesthesia or by internal sphincterotomy. The latter operation consists of cutting some of the superficial fibres of the sphincter. When done properly it gives immediate relief to the patient.

Some fissures become **chronic** with an indurated base. They are recognised by the presence of a sentinal pile which is diagnostic. They are best treated by complete excision of the fissure accompanied by a sphincterotomy of the superficial part of the internal sphincter underlying it.

Abscesses

These are either perianal or ischio-rectal. These abscesses should not be treated with antibiotics as this meets with very little success. They should be drained as soon as they are diagnosed. This shortens convalescence and considerable pain and disability. What is usually done nowadays is an incision of the abscess rather than saucerization. A search is made for a fistula which may be the cause of it. If this is not found the abscess is allowed to heal. The patient is warned that he may have to come for operation later should a fistula develop. This is a much more convenient and comfortable method of treating this infection as opposed to the old one where a large saucerized wound took weeks or months to heal.

Diagnosis of the more deep seated abscesses may be difficult to make. A story of perianal pain with severe tenderness in the perianal area or by rectal examination accompanied by a systemic upset such as fever or malaise are enough to make the diagnosis. These abscesses should always be incised as soon as they are diagnosed as they tend to burrow upwards and inwards and break through the anal canal causing fistulae or sinuses. Conservative treatment is worth little in the circumstances.

Fistulae-In-Ano

These result from a previous infection. Abscesses in that area cause fistulae or fistulae may be the cause of abscess formation.

These conditions are nearly always easily diagnosed when the opening of a sinus is seen on the surface of the perianal area.

As with the other perianal conditions treatment has become much more simplified. In a straightforward fistula the tract is laid open and allowed to granulate and epithelialise. The old operation where the tract was excised and the area saucerized is not often necessary.

The earlier the treatment is carried out the less complex the operation and the quicker the convalescence.

Prolapse of the Rectum

This has to be differentiated from strangulated piles when it occurs. There are really two forms of prolapse:—

(1) Mucosal, which is self-reducing and may only require local excision of the mucosa or even injection treatment to shrink the mucosa.
(2) True procidientia where the whole thickness of the rectal wall prolapses. This requires much more vigorous treatment. Usually a full scale repair through the abdomen is needed. There are many forms of repairs of this condition — a reflection of the inconsistent success of any one procedure. The simplest procedure in mild prolapse and in old people who cannot withstand major surgery is the Thiersch operation. This consists of putting a wire band around the anal canal which prevents prolapse. The opening should be left adequate for the passage of faeces but does not allow the rectal wall to prolapse.

Pilonidal Sinus

This is of course not really a perianal condition although it may be confused with it. These sinuses are either congenital or acquired. They are acquired by the pushing in of hair whith continuous trauma from long hours of sitting or driving. It used to be known during the war as a "Jeep disease". It therefore commonly occurs in hairy people. It appears as a dimple below the point

of the coccyx containing hair and it can become infected. The only treatment for it is complete excision of the tract.

Proctalgia Fugax

This is a peculiar and rare condition where the patient experiences sudden spasmodic pain in the anal region and no cause can be found for this. These attacks may occur at night and awaken the patient or they may occur during the day. They do not occur often and may be few and far between. Patients require reassurance and many of them learn to live with this condition which, like epilepsy, tends to become less frequent as time goes on.

Carcinoma of the Anus

This is mentioned last in order to stress its importance. It is often misdiagnosed as prolapsing piles or other conditions because it is not suspected. Any ulcer in the anal region which does not heal and for which a cause cannot be found should be suspected of being malignant. Carcinoma of the anus are happily not common. It is an eminently treatable lesion when seen early and is a squamous cell carcinoma growing from anal skin. It metastasizes to the inguinal nodes and this makes the prognosis gloomy.

Pruritus Ani

This is really not a disease but a symptom. The itching and discomfort in the anal area may become chronic and cause excoriation of the skin. Sometimes the cause may be purely psychological. However careful search should be made for a local cause – such as interno-external piles; discharging fistulae-in-ano; fissures-in-ano; lack of cleanliness; excessive sweating; parasitic infestation; (thread worms) fungal disease and gynaecological conditions. Sometimes pruritus occurs after prolonged exhibition of broad spectrum antibiotics. The treatment consists of eliminating the cause and paying careful attention to anal hygiene. A careful watch should be kept on the diet so that it does not produce faeces that is too acid or too alkaline. Bowel habits should be regularised and liquid paraffin should not be used. Sedation may be helpful especially at night.

A local application which is of value is Mixt. Mag. Cabol – a St Mark's Hospital mixture which is applied to the anus which is prescribed as follows:

Phenol	Gr. xv	– 3.5 ml
Zinc Oxide	Gr. xxx	– 7.0 ml
Prepared Calamine	Gr. xv	– 3.5 ml
Glycerine	Minim xxx	– 7.0 ml
Spirit	Minim xxx	– 7.0 ml
Rose Water (or equivalent)	Minim Lx	– 14.0 ml

Mixture milk of Magnesium add to 1 oz. or 112 ml.

Failing all this, more radical treatment such as injections of long acting local anaesthetics or tattooing may be found useful. When the skin is not excoriated, undermining the skin and resuturing (Ball's operation) or excision of elipses of skin around the anal opening may help. (Hughes' operation).

MEDICAL NEWS

ARE PLACEBOS MAGIC OR REAL?

A bit of whimsy making the medical rounds has a pharmaceutical company petitioning the Food and Drug Administration for approval of a new pain reliever. The compound, to be packaged in red, white and blue capsules, will be sold with a label that is indisputably true: PROVED EFFECTIVE IN ONE-THIRD OF ALL CASES AND ABSOLUTELY SAFE. The nostrum's name: Placebo.

Long the butt of jokes, placebos (from the Latin for "I shall please") are one of the oldest, most useful and least understood "remedies" in the doctor's satchel. Generally they come as pills of milk sugar or talc or as injections of salt water. Such substances are considered pharmacologically inert, incapable of eliciting a response when prescribed in reasonable quantities. Yet studies have repeatedly shown that placebos help as many as 30% or 40% of patients with real enough ills, including postoperative pain, migraines, coughs, seasickness, arthritis, ulcers, hypertensions, hay fever and even warts.

To account for the placebos's magic, doctors have resorted to virtually every kind of psychological and physical explanation. No luck . . . . . .

Psychiatrist Arthur Sharpiro of Manhattan's Mt. Sinai Medical Center points out that the placebo effect may also be influenced by attitudes of patient and doctor toward drugs and, perhaps more important, toward each other. In fact, says Sharpiro, who has collected hundreds of the "useless" nostrums over the years patient confidence in a physician may be a kind of placebo too, increasing chances of improvement.

Time, July 30, 1979

A NOSY CONTRACEPTIVE

"Honey, did you take a sniff today?" That could some day become a standard question among men and women. Writing in the British Journal Lancet, researchers Christer Bergquist, Sven Johan Nillius and Leif Wide of the University Hospital of Uppsala, Sweden, reported progress toward an unusual goal: the development of a nasal spray contraceptive. In their work, they used a derivative of a hormone known as LRH (for luteinizing hormone-releasing hormone). In high daily doses the experimental chemical inhibits ovulation by curtailing the secretion of still other hormones called gonadotropins, essential for the maturing and release of the eggs. For periods ranging up to six months, they administered the synthetic version of LRH to 27 women, aged 21 to 37, only one of whom also relied on an I.U.D. The drug was remarkably effective. Only two women showed any signs of ovulation – probably because of faulty dosages, the doctors suspect. Though the hormone's long-term effects are still unknown, immediate side effects were limited to coldlike sniffles and temporary headaches. There is speculation that LRH derivatives may also prove useful as a male contraceptive since gonadotropins regulate the production of sperm, but the actual marketing of a nasal contraceptive for either men or women is years away.

Time, August 20, 1979

MINOR TRANQUILLISERS AND ROAD ACCIDENTS

In a prospective study of 43,117 people, prescriptions issued by general practitioners over two years were linked with records of hospital admissions and deaths. For 57 people injured or killed while driving cars, motorcycles or bicycles the medicines that had been dispensed in the three months before were compared with those dispensed for 1425 matched controls. There was a highly significant association between use of minor tranquillisers and the risk of a serious road accident.

The increased risk of accidents to drivers given tranquillisers could be due to the known psychomotor effects of these drugs or to effects of the conditions being treated. Whatever the reason, patients taking drugs such as diazepam should be warned that they are at special risk.

D C G SKEGG, S M RICHARDS, RICHARD DOLL BMJ, 1979, 1, 917-919

WHY DO ONIONS AND JERUSALEM ARTICHOKES PRODUCE ABOVE-NORMAL AMOUNTS OF FLATUS?

Excess flatus is usually caused by foods containing carbohydrates that are not digested and absorbed by the human gut, but which can be fermented by colonic bacteria. Most research has been done on baked beans, in which stachyose and raffinose seem to be the substrates chiefly responsible for flatus production. Although artichokes and onions contain less than half the total amount of carbohydrate (per 100 g) found in beans, presumably they, also , have undigestible oligosaccharides, but information on this is not available in authoritative food tables.

BMJ 21 April 1979

BOOK REVIEW

SCIENTIFIC FOUNDATIONS OF FAMILY MEDICINE
Edited by John Fry, Eric Gambrill & Robert Smith.
Publishers: William Heinemann Medical Books Ltd. London. Price: £30. 687 pp.

This is a good size book and good value for money. It is about as thick as a telephone directory but after you have read through some of the chapters you will come to the conclusion that it is not half as thick enough.

Family Medicine edited by John Fry, Eric Gambrill and Robert Smith places the discipline of family medicine on par with the other medical specialities. In the preface to the book the authors state that in editing the book "we have had to select those principles which we believe are essential if the specialty of Family Medicine is to be accepted and respected, and they must serve as the solid ground for personal and family care."

Family Medicine and general practice have remained for too long a time the Cinderella of the medical specialities and this book is a bold attempt to justify the need for a separate existence of these disciplines. The fact that quite a large proportion of the book has been contributed by consultants from other specialities in medicine should not detract from the fact that this book has largely succeeded in this difficult task.

The publication of the book itself marks a historical landmark in medical publications. "The Heinemann 'Scientific Foundations' series has covered the important recognised specialities. Now, family medicine takes its rightful place amongst other specialities" say the publishers.

What is Primary Care? Those of us who have had to mark/students' answer papers on questions set on general practice will appreciate the need for some clear thinking on the subject. This is aptly dealt with in the section on the nature of family medicine. Who else but general practitioners would be best qualified to write this chapter?

What is a chapter on Burkitt's Lymphoma doing in a book meant for general practitioners? It makes interesting reading but does it teach GPs anything? The editors' footnote explains "The Burkitt's Lymphoma story shows how observations plus organised curiosity without elaborate or expensive research machinery helped to elucidate a syndrome. This is a lesson for family physicians. There may be other syndromes awaiting similar studies from other family physicians."

Each reader of the book will doubtless have his own preferences. My favourite chapter is the one on "Growing up in the Developing World" by D. Morley. In this chapter Dr. Morley postulates why developing countries should not slavishly follow medical fashions and trend of developed countries. He dislikes the idea of building big hospitals for the sake of national prestige. He calls them "disease palaces." The money spent on such monumental constructions could and should be better utilised in primary health care. Cost-effectivewise it only stands to reason that prevention and early treatment is always cheaper and better than cure and rehabilitation.

It is difficult to review every chapter of the book in this short article and space certainly does not permit one to do so. For the pure academic buffs this book is well endowed with serious reading on topics like rheumatology, endocrine disorders, haemopoietic and cardiovascular diseases and even the nervous system has three chapters under its section.

This book lays the scientific foundations of good general practice and does this remarkably well in the chapters on the cell, inflammation, infections and immunisation, wound healing, burns and shock. No one can dispute that a sound knowledge of these topics stands the GP in good stead when he tries to rationalise his form of treatment. What is oncology? Find out how errant cells behave in neoplastic growth.

There are sections also that are not often found in the usual textbooks on medicine. Development and ageing is well and fully treated in the book, and there are also good chapters on screening for disease and medical sociology.

There is a whole section on the genito-urinary tract and its disorders. In contrast the section on tropical diseases is a bit thin and centres only on protozoal infections, schistosomiasis and insect stings.

More also could be added to the section on psychiatry and mental disorders seeing that this forms quite a fair bit of cases seen in a GP's clinic. In particular I would have liked a more comprehensive chapter on the emotional disorders because what is given in the book is insufficient to help a GP elucidate the difference between a case of reactive depression and one of endogenous depression. No doubt one shades into the other quite frequently but if a GP is not to make the mistake of treating a case of endogenous depression which rightly belongs to the province of the psychiatrist then he should be warned of the pitfalls and these are many.

I was a little disappointed too that there was no section on communication. This is a relatively new discipline and the book by Dr. B.H. Tanner and Prof. Patrick Byrne should be read by those who want to know what all this is about. I believe this should form one of the corner stones of the foundation of family medicine.

All these are but minor points in an otherwise admirable and faultless publication. Every general-practitioner should have a copy on his shelf. He will profit by going through the pages and di--gesting the contents. If he considers himself well up with current reading then he cannot afford not to have a copy around him because even if he does not read everything inside the book, it will still make an impressive addition to his collection of medical books!

E.K.

Stoma Rehabilitation

The Singapore Cancer Society now has two trained stoma care volunteer nurses who will be able to provide much needed advice and help in the care of stoma patients. Hitherto, they have been able to attend to calls received from hospitals only. They will now be able to see patients after discharge from the hospital for follow-up sessions at the Clinic of the Singapore Cancer Society for continued care of any problem.

If you have patients requiring help, please telephone the Singapore Cancer Society (321608/321606) for appointments.

You may also wish to inform your poor and needy patients who cannot afford to buy colostomy bags that some assistance may be obtained from the Society. They are requested to apply for assistance through the Medical Social Worker of the respective hospitals.

A revolution in the treatment of diarrhoea in infants

Until now the treatment of diarrhoea in infants has been mainly symptomatic: prescription of antibiotics to combat the infectious causal organism, or absorbent powders, in cases of non-infectious diarrhoea. However refeeding, which should aim at restoring the strength of a child weakened by the bout of diarrhoea, has been somewhat neglected.

As clinical experience had shown that milk was poorly tolerated, dietary measures were confined merely to putting the child on a starvation diet for a varying length of time and then gradually introducing milk again, slowly and very carefully.

However recent studies in the field of infantile gastroenterology have made it possible to understand the reasons for this intolerance to milk and have opened up fresh vistas in the treatment of diarrhoea in infants.

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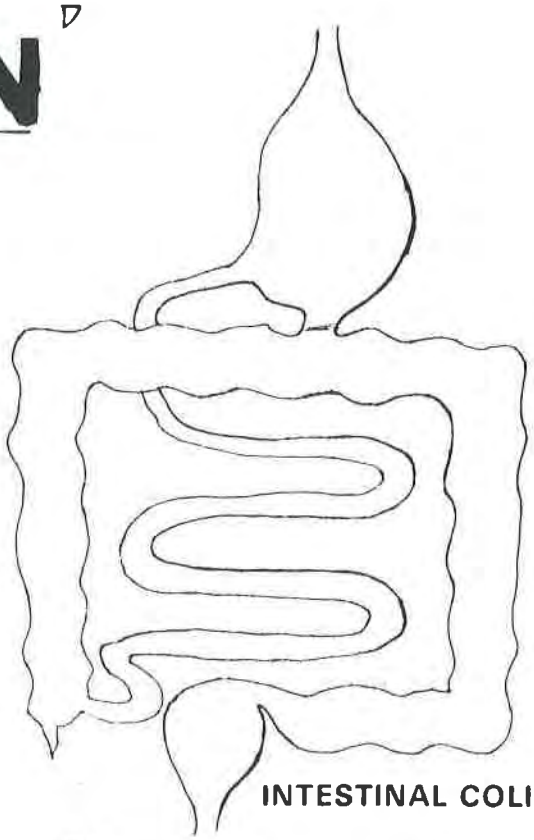

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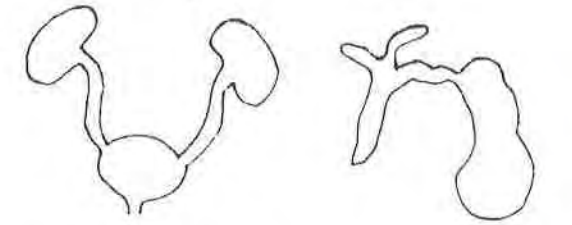

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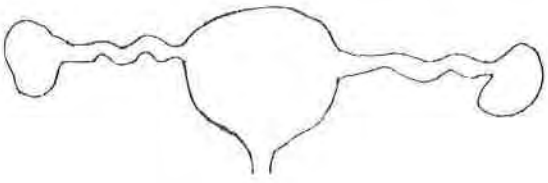

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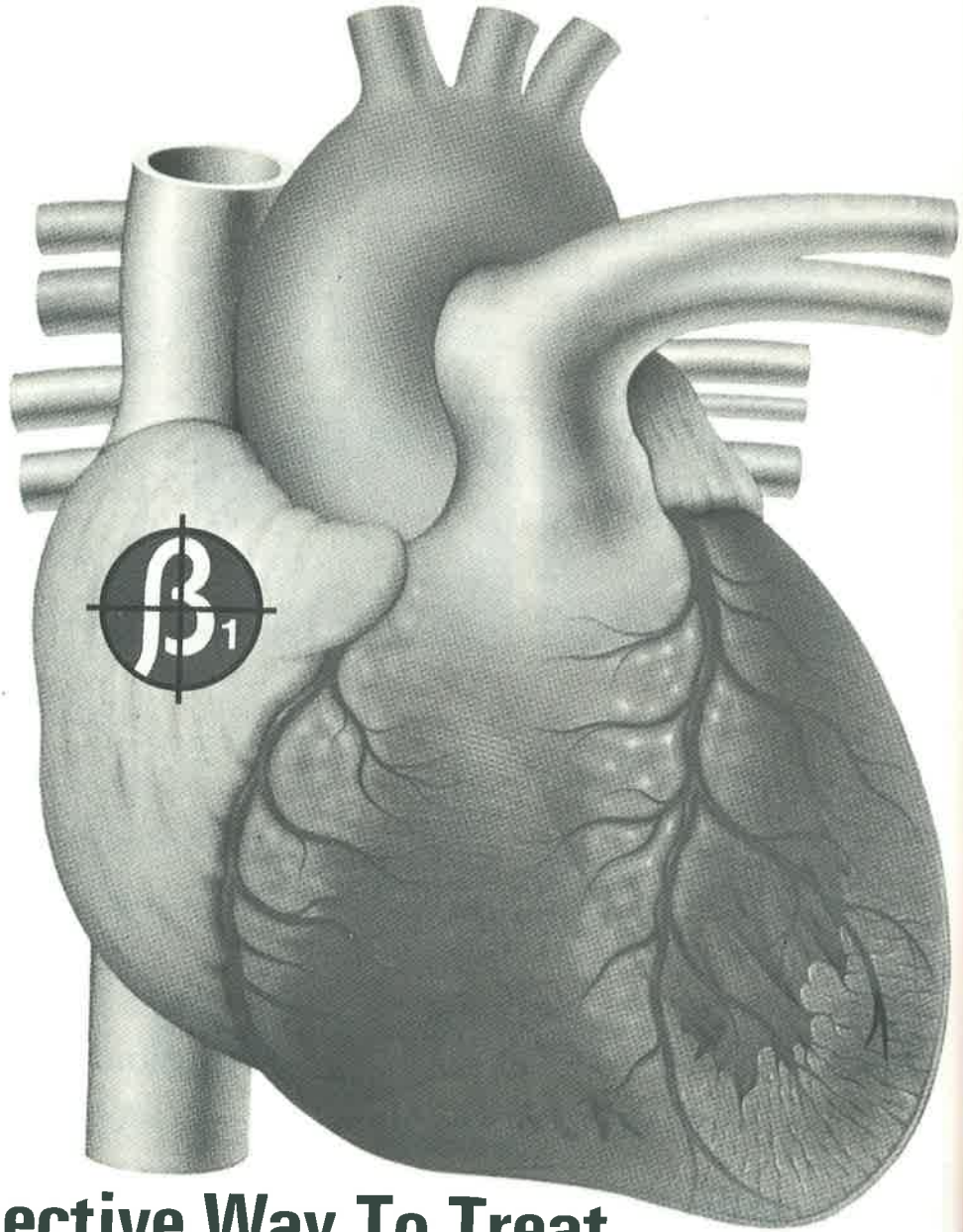
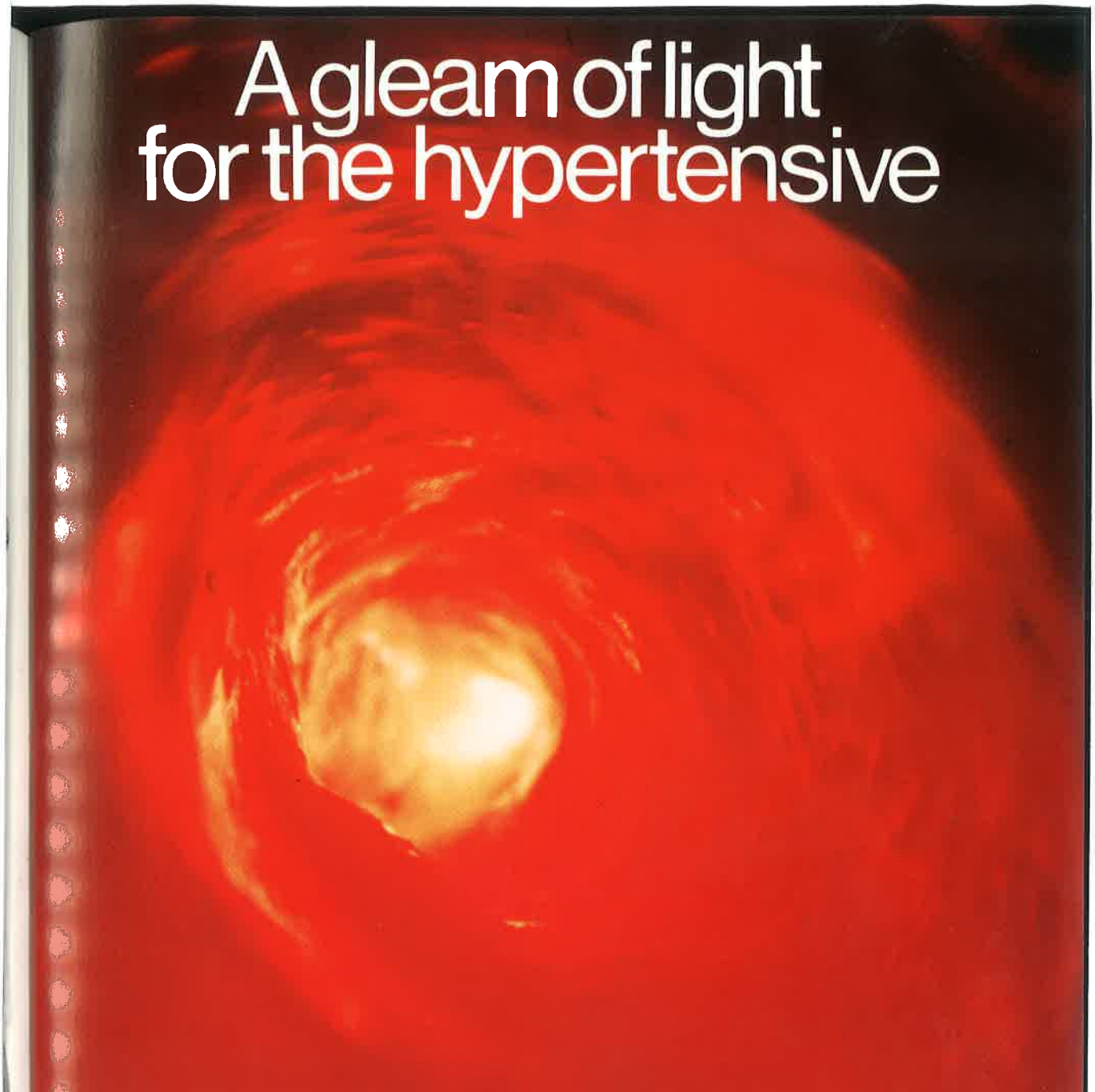


The Selective Way To Treat Hypertension and Angina

A gleam of light for the hypertensive



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