The Singapore Family Physician

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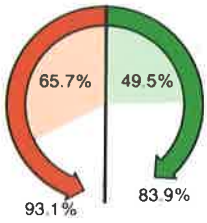
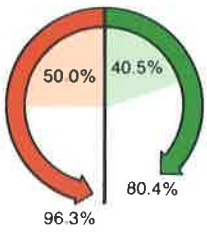


Betamethasone dipropionate cream
n=106

R. Schuppli et al.: Klinische Vergleichsprüfung zwischen einem neuen trihalogenierten Dermatokortikoid (Halometason) und Betamethasondipropionat. Z. Haut-Kr. 57,230 (1983)

In infected acute eczematous dermatitis

Sicorten plus cream
n = 134



Betamethasone dipropionate
+ gentamicin cream
n=133

H. Weitgasser et al. A comparative multicentre trial of halometasone/triclosan cream and betamethasone dipropionate/gentamicin sulphate cream in the treatment of infected acute eczematous dermatitis. J. int. med. Res. *11*, Suppl. 1 p.43 (1983)

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*Bengtsson, C., et al: Clinical Therapeutics, Vol. 2, No. 2, 1979

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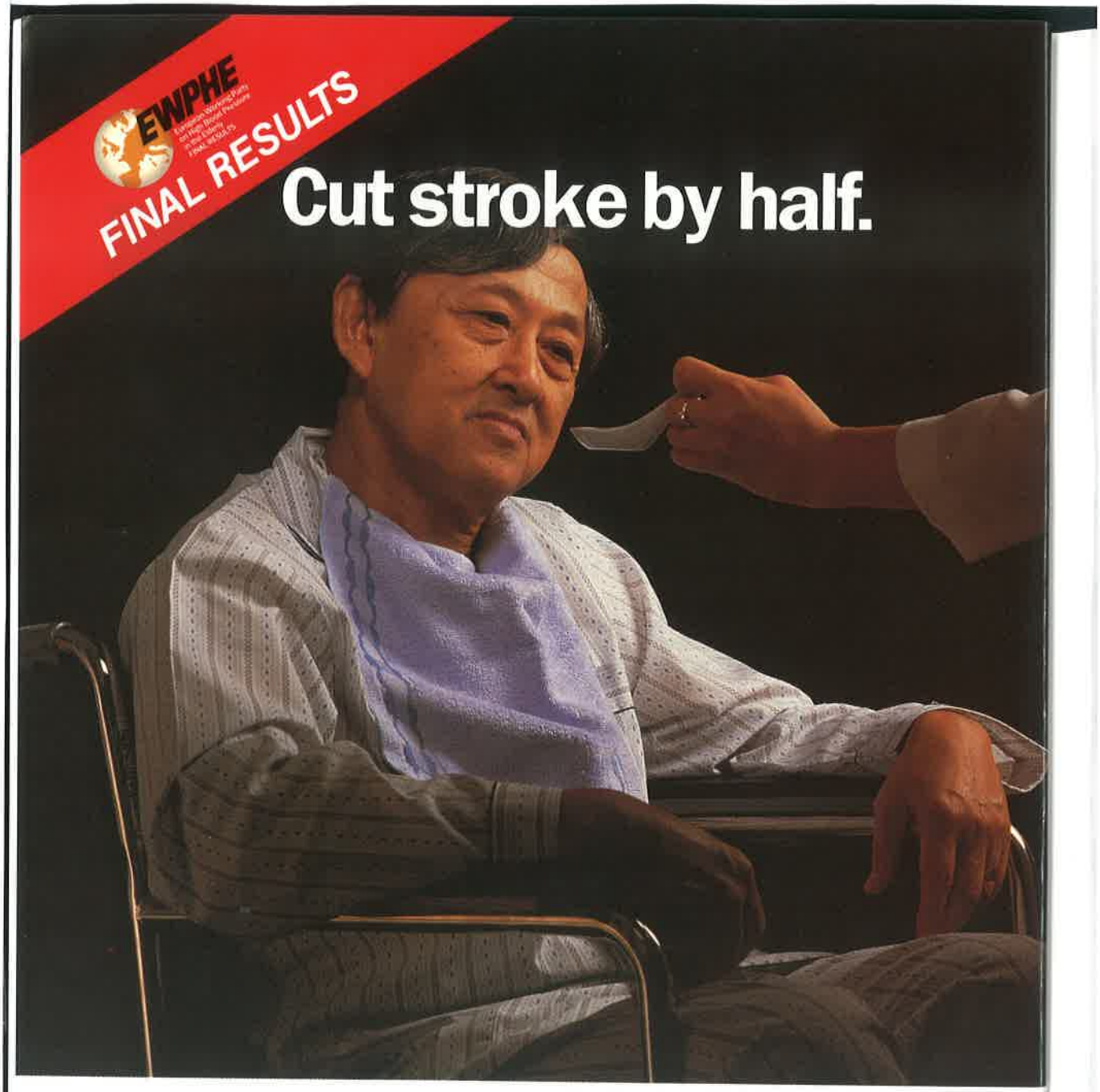

You'd do anything to help prevent stroke. But no blood pressure treatment has been proven to protect elderly hypertensives from this risk. Until now.

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1. Amery A, Brixko P, Clement D et al. Mortality and morbidity results from the European Working Party on High Blood Pressure in the Elderly Trial. Lancet 1985; i: 1349 – 54.

2. Antihypertensive therapy in elderly patients: Ninth interim report of the European Working Party on High Blood Pressure in the Elderly (EWPHE) Neth. Journ. of Med. 1984; 27: 165 – 70.

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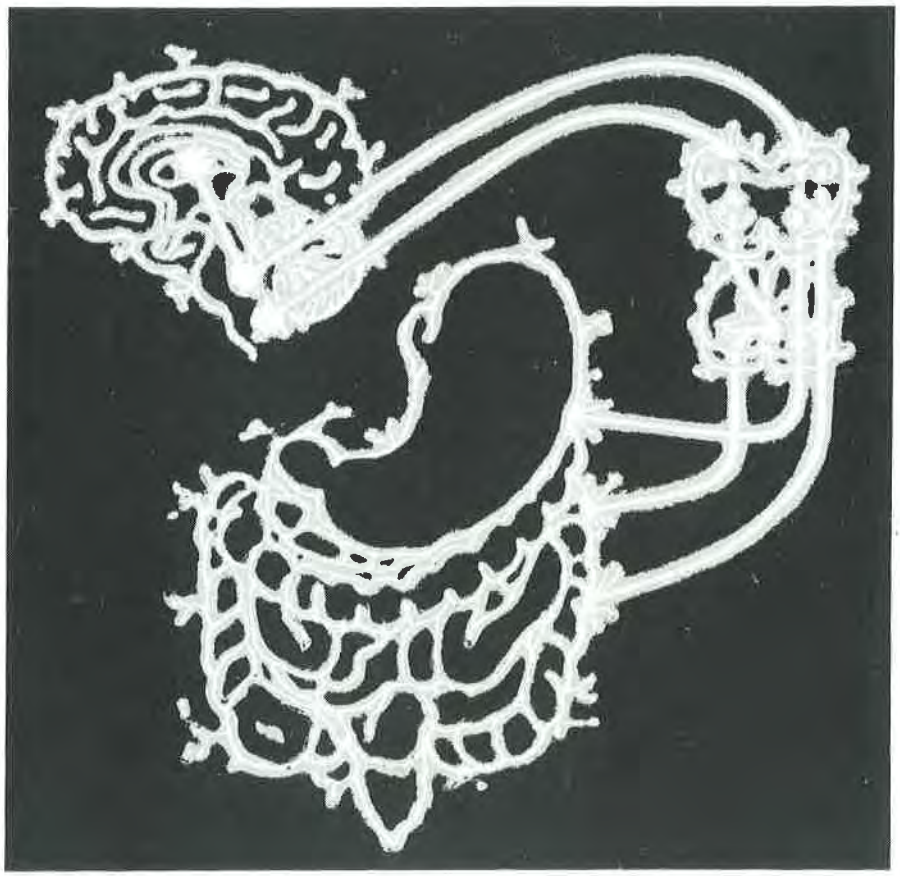

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EDITORIAL

GETTING THROUGH

For the ear tests words
as the tongue tastes food.
Let us discern for ourselves what is right;
Let us learn together what is good.

Job 34:3.4 (NIV)

Communication Breakdown

Communication breakdown has often been cited as the cause of misunderstanding between patients and doctors. Testifying to this sad and unfortunate communication hiatus are the occasional letters that one reads in the local newspapers and the rather infrequent complaints brought to the notice of either the professional bodies or the Singapore Medical Council. Perhaps communication breakdown is more frequent and numerous than has been brought to the notice of the medical profession. The complainant apart from having a "grouse" must have the ability to pen a letter before the problem can be identified. Thus the real problem may be more serious than meets the eye.

Written & Printed

Practitioners in the legal profession depend on the written word or legal document as the basis of communication between them and their clients. Architects and engineers have drawings, blueprints, plans and specifications to the most minute detail to render to clients. In spite of such visual and printed documentation misunderstandings do occur. Interpretation of the printed word or phrase does not appear to have a common denominator of understanding. If the printed word or phrase can form the basis of so much misunderstanding what of mere oral verbalization? Between the eye and the ear it is the eye that is invariably given more credibility. Witnesses giving testimony are always asked if they have SEEN it happen rather than HEAR it happen.

Oral Information

Medical practitioners on the other hand have no written or printed documents to offer to their patients. Their contractual relationship is implied and information sought by patients is given orally perhaps with drawings and statistical tables that may mean nothing to the person who sees them fleetingly. Even major operations are conducted solely on the strength of what is said and sometimes said under the most psychologically vulnerable period i.e. when distressed by pain, abnormal physiological manifestation and anxiety. The concept of the "informed patient" is praise worthy but is the information imparted to patients done so under the most ideal situation and circumstances?

Short-term Memory

Information given orally to patients in a medical context is retained by "short-term memory" span (SMS). It has been shown that short-term memory span is governed by a number of conditions. The main variables are:-

1. SMS varies according to whether the material presented is new or familiar. Memory span for new material is shorter than than that for familiar material.
2. SMS varies with the age of the person. Memory span increases up to physical maturity when it levels off and then slowly declines thereafter.
3. SMS varies with general intellectual ability and educational levels. Generally speaking the patient who is more intelligent and has achieved a higher educational level will have a longer memory span.
4. SMS is vulnerable to distractions and these may be extraneous or internal. The latter includes pain or discomfort and fear or anxiety.

The details of a surgical operation and the need to have one given orally to a patient under the above conditions are far from reassuringly informed. Medical vocabulary is certainly new material as far as patients are concerned even when framed in the most simple explanation bereft of statistical variables. When such material is given to an elderly man or woman with little schooling and under pain and discomfort how much of it really gets through?

Immediate-forgetting

If human beings have to live with a "short-term memory" they are also equipped with "immediate-forgetting" brain devices. The great part of experience does not survive more than a fleeting moment and is irretrievably lost the moment it is over unless actively re-inforced. Psychologists assert that these "immediate-forgetting" devices are healthy because the "memory slate" is wiped clean for the next person to environmental relationship.

Immediate-forgetting may be a boon to patients but a bugbear to doctors. Reports from medical protection societies have indicated that time and time again denials are made by claimant-patients that the complications of the surgical procedures they have undergone have been made known to them. And they have consented to operation in blissful ignorance of possibilities of mishaps.

Patient Information

Medical education must not ignore this important area of "getting through" to patients. The best of medical excellence will be lost if the patient still feels that he has not received adequately the information that is his due. For whom is the doctor trained?

Given the inadequacies of oral information it is hard to imagine that the medical profession has got by for so long without the need for printed information to patients. The doctor's word is said to be his bond. Experience has shown that this bond will continue to break down unless the patient fully understands what has been said to him. Getting through to patients is perhaps the most important and challenging area of medical practice. This is the area that is most neglected in the medical curriculum. The patient does not respond like the computer. When the input of information or instruction is outside the language of his understanding, he does not "bleep" or utter an "error message" defining in exact terms why the message fails to get through. Solomon's injunction to those of us who sincerely want to have a more meaningful and lucid dialogue with our patients would be to go to the computer, consider her ways and be wise.

LVC

MANAGING THE ELDERLY PATIENT

Dr Anne Merriman
MBBCh, DCH, MRCP (I), MRCP (UK), FMCP (Nig), DTM&H, MCommH, AM

INTRODUCTION

Why is the elderly patient unable to conform to the usual presentations and simple diagnostic patterns of younger patients?

The reasons are simple, but the effects are complicated, and this is why a speciality of geriatric medicine has been created in those countries where life expectancy has increased to a stage where there are now large numbers of the elderly over the age of 75.

The reasons are that ageing changes the body response to the environment, to medication and to disease. Much research has now been done into cellular biology and ageing at a micro level. Apology is made for the oversimplification of the ageing process, but recommended reading is given for those who wish to delve further into this interesting topic. The aim of these papers is to give simple pointers to the effects of general ageing on health and the practical approach to the elderly patient presenting in the practitioner's surgery.

In this series of articles, the background to ageing and the affects on presentation, diagnosis and treatment in the elderly will be presented in a simple and practical form.

This, the first article, will cover the ageing process, some presentations of illness, and some tips for the primary care physician who wishes to provide diagnosis and treatment of the elderly at primary care level.

AGEING

Ageing of the brain and nervous system

From the age of twenty, we are losing cells from the brain. The gross features of ageing show:

(1) Loss of cells,
(2) Shrinking of gyri,
(3) Widening of the sulci,
(4) Enlargement of the lateral ventricles and
(5) Reduction in the blood supply. This is due to changes in haemodynamics, narrowing and rigidity of vessel and atheroma.

This results in:

(1) Slower reflex responses
(2) Sensory deficits
(3) Slower autonomic responses, eg bladder and bowel, blood vessel responses to changes in posture.
(4) Slower thinking and memory changes

Psychological Changes with Ageing

The elderly patient is very vulnerable to psychological factors, and reaction to stress may result in physical illness. It is therefore most important that the physician understands the psychology of ageing. The elderly patient presenting to you is extremely complex, being affected not only by the ageing process, but also by his or her numerous previous experiences.

This can best be explained in diagramatic form: (figure 1).

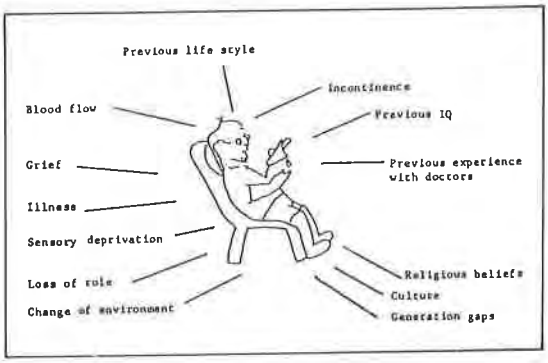

Figure 1: Factors affecting the presentation of illness by the patient

In considering the elderly patient these factors should be kept in mind.

Ageing of the Cardiovascular System

There is an age associated loss of adrenergic responsiveness, which may be associated with the reduction of receptors in the heart and blood vessels.

(1) Heart Rate

At rest this alters little with age.

Ability to increase rate on exertion is reduced.

(2) Cardiac Output

Mean cardiac output and stroke volume are reduced.

Systolic blood pressure rises, probably as a response to ageing changes in blood vessels. The elderly often needs this increase in blood pressure and energetic treatment may have drastic consequences. This will be discussed in a later article.

Other changes include reduction in diastolic filling, rise in arterial blood pressure, and reduction in myocardial contractility.

Ageing in the Respiratory System

The chest wall becomes stiffer due to sketal changes, and surface anatomy may be appreciably changed by thoracic scoliosis, altering the position of the apex beat.

Lungs become more distended, but total lung capacity remains the same.

Changes in Lung Function

Vital capacity is reduced. At 70 years this is only 75% of that at 17 years.

Residual volume increases 50% between 17 and 70 years.

FEV_1 reduces 25 ml per year from the age of 25.

These changes result in changes in pO2 and alveolar/arteriolar pO2.

There is a loss of functional lung tissue with reduced alveolae/capillary surface. This results in a reduction of p02 although pCO2 remains the same. PO2 is also affected by changes in cardiac output.

Responses to changes in pO2 and pCO2 are reduced by 50% in the elderly. Thus clinical response, such as hyperventilation may not appear until a pathological condition is well advanced.

Age related changes affecting Physiology and Metabolism

(1) Reduction of muscle tissue, and replacement by fibrous tissue.

(2) Increased deposition of fat.

(3) Decrease in weight.

(4) Decrease in cardiac output.

(5) Decreased liver flow, from 1400 ml/minute at 30 years to 800 ml/minute at 74.

(6) Reduced renal function
At 75 years glomerular filtration rate is only 50% of that at 20 years.

(7) Impaired homeostasis eg poor baroreceptor responses, poor thermoregulation, and disorders of potassium excretion.

(8) Change in biochemical norms. (see table 1).

Table 1: Biochemical changes in old age

EXAMPLES OF BIOCHEMICAL TEST WHICH SHOW SIMILAR REFERENCE RANGES FOR YOUNG ADULTS AND THE ELDERLY

- Sodium
- Chloride
- Bicarbonate
- Magnesium
- Bilirubin
- Aspartate aminotransferase (AST)
- Alanine aminotransferase (ALT)
- Lactate Dehydrogenase (LHD)
- Serum thyroxine (T4)
- Serum Tri-iodothyronine (T3)

EXAMPLES OF REFERENCE RANGES WHICH ARE APPRECIABLY DIFFERENT IN THE ELDERLY

	Young adults	Elderly
Albumin	37-51 g/litre	33-49 g/litre
Globulin	19-33 g/litre	20-41 g/litre
Urea	3.2-7.2 mmol/litre	3.9-9.9 mmol/litre
Creatinine	62-123 umol/litre	52-159 umol/litre
Potassium	3.6-4.7 mmol/litre	3.6-5.2 mmol/litre
Urate (men)	0.24-0.46 mmol/litre	0.19-0.31 mmol/litre
Urate (women)	0.16-0.37 mmol/litre	0.13-0.46 mmol/litre
Calcium (women)	2.18-2.55 mmol/litre	2.18-2.68 mmol/litre
Phosphate (men)	0.79-1.40 mmol/litre	0.66-1.27 mmol/litre
Phosphate (women)	0.82-1.37 mmol/litre	0.94-1.56 mmol/litre

Source 1

NB: *PARTICULARLY (5) & (6) CONTRIBUTE TO DRUG SENSITIVITY AND POOR HANDLING OF MEDICATIONS.*

UNEXPECTED PRESENTATIONS OF ILLNESS IN THE ELDERLY

Elderly patients are not good at presenting the symptoms that we doctors would expect for the disease. However it can be seen from the changes in the body with ageing that not only do they feel different, but their perception of disease is different. The commonest presentation maybe fatigue, or just feeling not well. Do not dismiss these vague symptoms lightly. The aged persons have lived with their bodies for a long time, and often are very aware when they are ill. On the whole the elderly are non reporters of illness[2], rather than over reporters.

Some examples of unexpected presentations in the elderly are given below:

(1) Acute Confusion

The most rare causes are intracranial.

The commonest causes cover a whole spectrum of illnesses. ie

Abnormal response to medication
Infections
Metabolic failure
Intoxication/withdrawal
Myocardial infarction
Hypoglycaemia
Faecal impaction
Heart failure
Abdominal emergencies

(2) In myocardial infarction, 70% of the elderly present without chest pain. The commonest presentation in a recent study, was dyspnoea.

(3) Pneumonia and respiratory diseases may present with less cough and dyspnoea, masking the source of the pathology.

(4) Intestinal angina may present with the refusal of food, because of the pain following eating. This is a common presentation in the confused elderly, and often misunderstood in long stay facilities.

Therefore the elderly patient requires special consideration.

CONSIDERING THE ELDERLY PATIENT IN THE CLINIC

(1) This must include a FULL HISTORY from the patient, or the relative if he/she is confused. If not confused it is always good to interview the patient alone, as relatives sometimes are inclined to put words into their mouths! Remember relatives may be under strain from many sources, and often are trying to impress on you the urgency of the situations as they see it. They must be listened to, but so must the patient.

(2) PHYSICAL EXAMINATION will include the conventional examination on the couch, remembering that many old people are uncomfortable lying flat... also included is assessment of:

MOBILITY. Watching the patient walk and if necessary standing up.

EYES. Visual acuity and examination of the eyes for cataracts and retinopathy.

EARS. Checking for wax, hearing and if reduced, check with tuning fork for conductive deafness.

RECTAL EXAMINATION. This may be socially unacceptable to the Singapore elder, but if there is any suspicion of change of bowel habit, prostatism, or incontinence another appointment with a relative should be made.

If we are to manage the elderly in the community, and help them to avoid unnecessary hospitalisation and visits to outpatients, primary care clinics in Singapore need to be fully equipped for the assessment of the frail elderly.

Equipment required:

As urinalysis is necessary on all new elderly patients, if the surgery has only a squat toilet, it can easily be converted to a sitting type for the frailer elderly by a simple tubular steel movable appliance.

Pin, cotton wool, hot and cold testing bottles, tuning fork, for testing sensation.

Diagnostic set with opthalmoscope and auroscope.

Snellen's charts including an E chart for the illiterate.

Ear syringe

Rings for vaginal prolapse.

Torch for examining the perineum in cases of incontinence.

Proctoscope (used rarely), and culposcope.

AIDS TO RECORD KEEPING FOR THE ELDERLY

(1) Problem Orientated Medical Records (POMR)

Because the usual elderly patient presents with mutliple problems, often interacting with each other, they are ideally recorded using POMR.[3]

This system is now used frequently throughout the medical world in many specialities, and in General Practice. It is well recognised as not only a method for keeping good records, but also for teaching, and helping the doctor to assess his own treatment in a rational way.

In its simplest form, it consists of making a "problem" list after assessment of the patient, which is placed in a conspicuous place in the notes, so that it can be referred to at each meeting between the patient and his physician.

A "problem" is that which worries the patient or the doctor or both. It therefore can include medical diagnoses, social problems, psychological problems and functional problems.

The Problem list should be kept as simple as possible, and all further explanations written in the notes under the "date active". This date is entered in the appropriate column on the main problem list (see figure 2). If and when the problem becomes inactive, the date is entered on the problem list in the column marked "date inactive". All "active" problems are reviewed at each visit.

Each problem is given a number, which is used each time the problem is referred to in the progress notes.

(2) The Age/Sex Register

The doctor who has a regular group of elderly attending (or not attending as they become older), will find it useful to keep an AGE/SEX register. Thus those over a certain age can be reviewed on a regular basis.

FIGURE 2: EXAMPLE OF A PROBLEM LIST

NAME: Tan Poh Choo
DATE OF BIRTH: 3.6. 1912
SEX: F

No.	Problem	Date Active	Date Inactive
1.	Diabetes	6/7/84	
2.	Arthritis	6/7/84	
3.	Living alone	6/7/84	
4.	Recent bereavement	6/7/84	5/8/85
5.	Incontinence of urine	10/9/85	2/1/86
6.	Recent fall	13/3/86	

(3) The "at risk" Register

An "AT RISK" register indicates those who will need regular review. This list should include:

the over 85's,
the socially isolated,
the recently bereaved,
the low economic group,
those recently discharged from hospital,
those recently rehoused and
the housebound.

More can be done to prevent deterioration in health and therefore quality of life in these patients if a nurse or the doctor can visit them at home (figure 3). This will need to become a

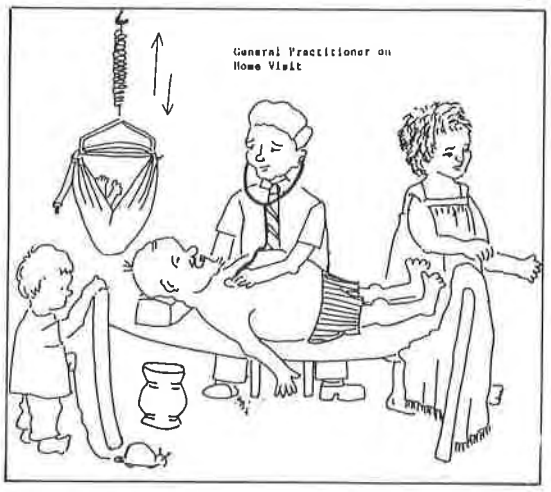

Figure 3: The home visit is a feature of care to help the elderly patient.

feature of care if we are to prevent unnecessary hospitalisation of the elderly.

The elderly patient does not do well in hospital as a rule, and is usually best treated in a familiar environment, unless the condition requires special expertise only available in hospital. However with more community resources, it will be possible to treat more at home, which is usually where the elderly like to be when they are ill.

Acknowledgements

Gratitude to Mrs Nah Gek Choo Occupational Therapist for capturing an idea in the illustration figure 3.

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COPIES OF ALL "RECOMMENDED READING" IN THIS SERIES ARE AVAILABLE AT THE SINGAPORE COLLEGE OF GENERAL PRACTITIONERS LIBRARY.

AMPUTATIONS IN THE ELDERLY

Dr P Doraisamy
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Abstract

Patient characteristics and causes of amputations in the elderly are studied in this paper. A retrospective analysis of the case records of all new patients referred to the Artificial Limb Centre, Tan Tock Seng Hospital, from 1982 to 1985 was carried out.

209 out of a total of 505 patients were above 65 years of age. 78.4% were between 65 years and 75 years. Diabetic gangrene was the cause of amputation in 83.2% of the patients. 13 patients had lower limb malignancies and only 2 patients had amputations following road traffic accidents. There were 6 bilateral amputees. 5 of them had diabetic gangrene with the second amputation carried out within two years.

Problems encountered in the rehabilitation of the elderly amputee are discussed.

INTRODUCTION

Population projections show that the number of elderly persons will grow significantly between now and the year 2000 in both the developed and developing countries. This has resulted in an awareness and concern for the care and rehabilitation of the elderly. The aim of this paper is to study patient characteristics and causes of amputations in the elderly in Singapore. Problems encountered in the rehabilitation of the elderly amputee are discussed.

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Department of Rehabilitation Medicine
Tan Tock Seng Hospital
Moulmein Road,
Singapore 1130

Patients and Methods

The Artificial Limb Centre, Tan Tock Seng Hospital, is the only government limb fitting centre in Singapore. It serves all hospitals in the country. A retrospective study of the case records of all new patients referred to this centre from January 1982 to December 1985 was carried out. Patients were categorised according to age, sex, race, indication for surgery and type of amputation carried out. Data obtained was analysed using a Database System.

Results

1. 209 patients out of a total of 505 were 65 years of age and above. There were 108 males and 101 females.
2. Age distribution is shown in Table I.

TABLE I
AGE DISTRIBUTION

Age in years	65-70	71-75	76-80	81-85	Above 85
Patients:	94	70	31	8	6

TABLE II
DISTRIBUTION BY RACE AND SEX

Race	Sex	Patients	Total	Percentage
Chinese	Male	84		
	Female	90	174	83.2%
Malay	Male	11		
	Female	8	19	9.1%
Indian	Male	13		
	Female	2	15	7.2%
Eurasian	Male	0		
	Female	1	1	0.5%
Total			209	100%

78.4% were between the ages of 65 years and 75 years.

3. Race and sex distribution are shown in Table II.

4. Table III shows indications for amputation. 83.2% of the patients had diabetic gangrene. Of the 13 lower limb malignancies, 9 had squamous cell carcinoma. 1 of these patients had a history of long-standing elephantiasis and another had Hansen's Disease. Malignant histiocytoma was seen in 2 patients, osteosarcoma in 1 patient and a recurrent malignant melanoma in one other.

   Diabetic gangrene was the indication for surgery in 1 patient with Hansen's Disease. There was 1 patient with a varicose ulcer and 1 with tuberculosis of the ankle joint.

TABLE III
INDICATION FOR SURGERY

Diagnosis	Number of Patients
Diabetic gangrene	174
Arteriosclerosis	15
Squamous cell carcinoma	9
Osteosarcoma	1
Histiocytoma	2
Malignant melanoma	1
Hansens disease	3
Tuberculosis ankle	1
Varicose ulcer	1
Trauma	2
Total	209

5. Below knee amputations were carried out in 171 patients. 148 of them had diabetic gangrene. Of the 28 patients with above-knee amputations, 19 had diabetic gangrene, 7 had arteriosclerosis, 1 had a malignant histiocytoma and 1 had a history of injury in a road traffic accident.

   There were 6 bilateral amputees. 5 of them had diabetic gangrene. 1 patient lost his second leg within the same year. 2 others had their amputations one year apart, and the other 2 patients had the second amputation between 1 and 2 years apart. One bilateral amputee had a history of injury in a road traffic accident.

   2 hip disarticulations were carried out. 1 was for osteosarcoma, and the other for a malignant histiocytoma. Symes amputation was carried out for 2 patients with diabetic gangrene.

6. Associated Illnesses. There were 17 reports of associated hypertension. A past history of cerebrovascular accident was given by 5 patients, and congestive cardiac failure by another 4 patients. 2 patients had ischaemic heart disease and 6 others had a history of myocardial infarction.

Discussion

41.4% of all new patients referred to the Artificial Limb Centre, Tan Tock Seng Hospital, from 1982 to 1985, were 65 years of age and above. The majority of them were between 65 years and 75 years. 174 patients had diabetic gangrene, and 5 of them had bilateral amputations. 13 amputations were carried out for lower limb malignancies, and 2 were the result of trauma. There were 15 patients with vascular occlusion due to arteriosclerosis.

The amputation is traumatic emotionally as well as physically, for the elderly person, as they see it as evidence of deterioration of their body and impending death.[1] Rehabilitation of the elderly amputee is complicated by multiple pathology,[2] and is limited by the presence of cardiovascular disease, cerebral insufficiency, ischaemia of the contralateral leg and other degenerative diseases.[3, 4, 5, 6] In this study there were 17 reports of hypertension, 5 cerebrovascular accidents and 2 patients with ischaemic heart disease. 4 patients had a past history of congestive cardiac failure and 6 patients had myocardial infarction in the past.

Diabetic gangrene was present in 83.2% of these patients. Contributing factors are diffuse small vessel angiopathy, artheroma of major arteries, susceptibility to bacterial invasion due to hyperglycaemia and immunological deficit and peripheral neuritis resulting from cutaneous trophic changes.[7] In the elderly, peripheral neuritis and large vessel disease

contribute to more severe changes and rapid progress to extensive gangrene and major amputation.

In the elderly bilateral amputee, the presence of poor balance, cardiovascular diseases and generalised weakness, makes ambulation with prostheses nearly always impossible.[1] Even when artificial limbs were prescribed many patients did not use them after discharge because of various problems within their own homes.[8]

Factors which absolutely contraindicated limb fitting have been suggested.[9] They include lack of motivation, threatened gangrene of the remaining leg, severe heart disease, severe neurological problems and multiple physical impairments. Rehabilitation in a wheelchair in these patients could give them independence in mobility.

Rehabilitation should begin early, even before surgery, and should be carefully planned by a multidisciplinary rehabilitation team. Special requirements of the elderly should be taken into consideration such as visual impairment, postural instability, contractures and pressure sores. Realistic goals should be set for each individual patient, always remembering the patient's social history, family, and home environment.

Regular follow-up is required by domiciliary nursing staff, occupational therapists, and the family physician. In this way, problems of independence and accessibility will be detected and attended to immediately. This will also ensure proper control of diabetes mellitus, prompt action when there is ulceration or early gangrene in the contralateral leg and prevention of contractures and pressure sores.

Acknowledgements

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TRAINING DOCTORS FOR THE YEAR 2000

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This conference, with its theme 'Toward the Year 2000,' would, I suspect, have pleased the late Professor David Maddison. As the Founding Dean of the Newcastle Medical School he set out to create a Faculty accountable to the community with a programme that emphasized patient centred medicine on the one hand and the process skills of problem solving, critical thinking, personal development and self education on the other;[1] the skills upon which continuing professional growth depends.[2]

In order to achieve this programmes had to reflect the patterns of mortality and morbidity in the community and such patterns had to be continually monitored to ensure that changes found expression in the undergraduate curriculum.[1]

In accordance with these precepts this conference began its task by examining the pervasive ecological trends and changes afoot in the community. Subsequent discussion encompassed such issues as the impact of medical technology on general practice, the detection and prevention of long term disability in children and the aged, the function of the medical team and its accountability to the community, research in general practice, continuing medical education and the planning for a co-ordinated health system in which the efforts of many are organised and integrated.[3]

Having pondered all these issues and the future they presage it is now our task to face the challenge of educating doctors for the year 2000.

In 1913, in an address to St. George's Hospital Medical School, Sir William Osler said: '... the truth is, we have outrun an education system framed in simpler days for simpler conditions.'[4] Unfortunately educational practices are curiously resistant to change[5] and in many parts of the world medical schools are busily and successfully training students to carry out tasks they will never be called upon to perform and to cope with medical problems they will never encounter.[6] The reasons do not concern us here; they are deeply rooted in custom, human behaviour and what Simpson calls 'a mythology of medical education'.[5] Suffice to say the problem tends to be self-perpetuating and has been eloquently discussed elsewhere.[1, 2, 5-10] There is however one aspect of this problem that we should pause to consider.

The problem of defining the content of general medical education has seemingly been compounded by the superlinear growth in knowledge but only if factual content is allowed to dominate the process of syllabus development. If we concede that the skills of science are intellectual, knowledge is a substrate[1] and once this concept is mastered greater attention can be devoted to the acquisition of the skills, attitudes and behaviours fundamental to continuing professional growth.[2] Furthermore the students for whom we will be planning our programmes in the next 50 years will be computer literate which will make it well nigh impossible to prevent them learning what they are motivated to learn. Mercifully there is a tendency for most human beings to learn in spite of their teachers.[5]

The goal of medical education is to help students to develop the wide range of interpersonal skills that relate to the ethics of medical science and to their continuing professional growth by the process of life-long self-evaluation and self-directed learning.[2] These skills are applicable to the physician, the surgeon, the researcher and the teacher alike;[1] equipped with these skills a doctor will find that factual knowledge is an 'open book'

or should I say silicon chip or optic disk? What then must we do to prepare ourselves for the future?

Firstly, we must recognise the fact that the future began some time ago[11] and that to prepare medical students merely to do what is now being done is to condemn them to instant obsolescence.[7]

Secondly, we must recognise the fact that the technological innovations we are experiencing are of a new and different order from those of the last 200 years. The nature and scope of the changes in our lives resulting from these innovations will be unimagineable; the speed of these changes — unprecedented.[12]

Thirdly, we must recognise that as a result of Information Technology the acquisition and retention of medical information is no longer a professional monopoly and that this will change the whole balance of educational goals in the training of doctors.[11]

Earlier at this conference we discussed the likely impact of our new technologies on general practice[13] and on continuing medical education.[14] Let us now apply our imagination to the possible effects of these technologies on the process of undergraduate medical training for the future.

THE LOCUS OF MEDICAL TRAINING

Few seem to question the assumption that the medical school has the prime *responsibility* for the students' medical training.[15] Those who claim that it has failed in this responsibility point to its lack of effectiveness in preparing students for the realities of clinical practice.[3, 5-7, 11] As long ago as the 1920s James Mackenzie wrote:

> 'I left College under the impression that every patient's conditions could be diagnosed. For a long time I strove to make a diagnosis... without avail. For some years I thought that this inability to diagnose my patient's complaints was due to personal defects, but gradually through consultations and other ways I came to recognise the kind of information I wanted did not exist'.[16]

Similarly, few seem to question the *centrality* of the medical school in undergraduate medical training and yet the future, which (I remind you) began some time ago, may well change that reality. Universal accessibility of information through such systems as Prestel or its Australian equivalent, Viatel, which is expected to be in operation in March 1985, has the power to dismantle our present educational system. Schools as we know them may cease to exist as learning at primary, secondary and tertiary level is replaced by a continuum of life-long learning.

Universities and their medical schools have thrived by virtue of the high market value of information. With the advent of I.T. the market value of information will virtually cease to exist. Knowledge will cease to be the commodity that separates teachers and students; Information Technology will change forever the dynamics of education. Marinker rightly describes this as 'a crisis in medical education which concerns the survival of the medical school and of the teaching hospital.[11] Teaching facts, memorising facts, examining for facts and contriving problems in reasoning for examination give no indication of what physicians' problem-solving behaviour will prove to be in real life under real life pressures.[3] Training doctors for the future will necessitate a clinical apprenticeship in which learning experiences bear a logical relationship to future work activities.[7] If we acknowledge the message of the White, Williams and Greenberg research in the ecology of medical care[17] we must reappraise the role of medical school and hospital alike before we can decide whether or not they have a useful function in preparing students for the future. Such preparation will involve a significant shift away from physician dominated training within institutions towards an expanded and co-ordinated system of training involving the skills of many kinds of providers of health care at many levels in the community.

HEALTH, ILLNESS AND MEDICINE — A NEW PARADIGM

In his challenging book 'The Structure of Scientific Revolutions', Thomas Kuhn[18] pleads for new ways of structuring our thinking if we are to solve the problems of the future. He calls this process — 'paradigm shift', and it is my belief that for physicians of the future to fulfill a relevant function in society they will need to shift their paradigm,

to use a totally new framework on which to base their practice of medicine.

The achievements of molecular biologists will, I predict, effect changes in medicine comparable to those witnessed in physics with the leap from Newton to Einstein. Such achievements have already forced us to discard our former concepts of chemical formulation and its pharmacological meaning.

We must now think of drugs as 'shapes'. Tumours can now confer 'immortality' on monoclones and in so doing function as 'factories' producing endless quantities of pharmaceuticals, vaccines and tissue proteins of hitherto inconceivable purity and specificity.[20] These technological changes, and many more, will demand a new range of concepts on which to base our ethics and philosophy of medical practice and hence, our educational endeavours. Advances in molecular biology are about to change not only how medicine is practised, but also, and more importantly, how we understand biological processes and respond to them as clinicians.[11]

MEDICINE, SOCIETY AND POWER

The possibility of universal access to information via the home video, telephone and micro computer will profoundly affect the doctor/patient relationship and the institution of medicine as we have known it.

As information ceases to be a professional monopoly the power structure of the medical consultation will change. This is already happening and is causing considerable anxiety throughout the profession. We can be certain that with greater and easier access to information our patients will be better informed and better equipped to make more informed judgements about their health and about the quality of the medical care they seek and receive.

Already those of us trained for medical practice a generation ago have become victims of a 'culture shock' — distressed and disorientated as the familiar social practices and institutions on which we were taught to depend are being removed. Central to this is our self-concept as physicians and this, I suggest, was, and still is, nurtured through a curriculum that grew out of what 'professionals' in the past identified as desirable, not what was possible in meeting well defined goals. Conjecture piled on conjecture as hunch, custom, guessing and rule of thumb conspired to formulate the goals of our training and the means by which it would be regulated.[6]

In preparing doctors for the year 2000 we must first ensure that neither *we nor they* believe that physicians posses the powers with which the public has hitherto endowed them; it will no longer do so because it is becoming informed and doctors of the future will only function effectively if they build for themselves a realistic 'self-concept'.

THE PLURALISTIC SOCIETY

Finally, our doctors of the future face the challenge of a society in which there will be greater freedom to act.

Information and communication technology will increase options for individuals and small groups who will become increasingly self-reliant and independent. Society will become more pluralistic as will many of its monolithic institutions such as the medical profession and this could significantly change the nature of medical education.

The idea of a common training programme for all doctors and of a common selection process regardless of future professional role serves only to reinforce the disparity between career and education. This disparity is regarded as a major contributor to the deterioration of student values and attitudes witnessed during the course of their training.[21-23]

The pluralistic society lends itself to the educational style of the Open University with many exciting possibilities for a modular system of medical training.[11] Entrance into such a system can occur at any age and training can be highly individualised. Such a process would, as Marinker observes, 'dissolve the artificial and arbitrary boundaries between undergraduate training, vocational training and continuing medical education' as a result of which the medical profession would find it 'difficult to erect and sustain vast, powerful and long term institutions'. These institutions have been one of the certainties, one of the constants of our professional careers. *The constant for the future is change* and this will actively mould the careers of our

colleagues training for the year 2000. To help them we must provide courses concerned with the *processes of thinking* and with *the strategies of adaptation* rather than the curriculum which we currently offer.[11]

CONCLUSION

Much has been said and written on this topic and within the constraints of this brief discussion I have attempted to provoke a serious questioning of the relevance of current undergraduate medical education affirming that neither its content nor its methodology prepare doctors for many of the critical tasks they are called upon to perform in clinical practice.

I have endeavoured to show how our changing society, on the threshold of the era of information and communication technology, can be expected to place new and unprecedented demands on the medical profession as information ceases to be a professional monopoly and the power structure of the medical consultation changes.

We have conceded that our new technologies are of a totally new order to those of the past and that this is likely to profoundly change the nature and organisation of medical education and the very framework of our conceptualization of human biology and the ethics and philosophy of medical practice.

Whereas our past professional life has been largely nurtured by monopolithic institutions, the future we face is that of a pluralistic society in which the only constant is change. As preparation for such a society our present courses of training are an anachronism. Teaching facts, memorizing facts and examining for facts give no indication of what a doctor's problem solving behaviour will prove to be in real life under real pressures.[3] In preparing doctors for the year 2000 we must provide training that is nothing less than supervised rehearsal for the part they are to play as medical practitioners in the society they serve.[7]

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CANCER OF THE CERVIX — A PREVENTABLE DISEASE

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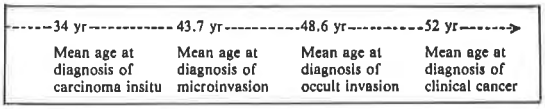
INTRODUCTION

Cancer of the cervix is the most common female genital cancer in Singapore. Its incidence is about 12 per 100,000, being three times more common than cancer of the uterus and cancer of the ovary. In many countries, including Singapore, cervical cancer often presents in an advanced stage and carries a high mortality. This situation can be avoided by having an effective screening programme. This article will highlight the place of the cervical smear test in the prevention of cervical cancer and the role of the family physician in this process.

THE RATIONALE FOR SCREENING

The natural history of cervical cancer is depicted in figure 1. Tumours in the majority of patients progress in an orderly fashion from a preinvasive lesion to an invasive lesion, though in a very small number, the tumour begins as an invasive lesion de novo. The cervix, unlike many other organs, is very accessible for examination and visualisation. These two facts make cervical cancer eminently suited for screening. The diagnosis of a precancerous condition can lead to its eradication by simple means and avoid the consequences of expensive treatment and high mortality associated with an invasive cervical cancer. There is now overwhelming evidence, from studies conducted in British Columbia, Iceland and Scotland, that cytological screening has been instrumental in effecting a reduction of both the incidence and mortality rates of invasive cervical cancer and has resulted in the earlier detection of clinical cancer.

FIGURE 1
NATURAL HISTORY OF CANCER OF THE CERVIX



WHO TO SCREEN?

Histologically there are two main types, the squamous cell type (95%) and the adenocarcinoma type (4-5%). Squamous cell cancer of the cervix is now accepted to be a sexually transmitted disease, although the nature of the transmitter is still not clear. It is extremely rare in celibate women. The high risk factors in acquiring cervical cancer are listed in table 1. The principal risk factors are the first two on the list, viz. early age at first intercourse and multiple sexual partners. In general, any woman exposed to sexual intercourse is at risk

TABLE 1
RISK FACTORS FOR DEVELOPING CERVICAL CANCER

1. Early age at first sexual intercourse
2. Multiple sexual partners
3. Low socio-economic class
4. Smoking
5. "High risk" male

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and should be screened with a cervical cytological smear. Unfortunately, in many places, the population at the highest risk, such as the prostitutes, do not avail themselves for screening. Only public education can remedy this. The family physician's role in educating and screening the public is invaluable, as attested by the fact that they form the backbone of some of the most successful screening programmes in the world.

HOW OFTEN TO SCREEN?

This is a more difficult question to answer. While most authorities agree that screening should start as soon as sexual activity begins, there is much controversy as to the interval between screenings and the duration of screening. The landmark Walton Report from Canada, published in 1976, made these recommendations, summarised below:

1. An initial smear should be taken from every woman over the age of 18 who has had sexual intercourse.
2. If the initial smear is satisfactory and negative, a second smear should be taken after about one year.
3. Providing the initial two smears are satisfactory and negative, subsequent smears should be taken at approximately 3-year intervals until the age of 35 and thereafter at 5 yearly intervals until the age of 60. If all such smears have shown no significant atypia, the patient can then be dropped from the screening programme.

Cost effectiveness and the most efficient utilization of resources were of major concern in this report.

The objectors point to the fact that the false negative rate with cervical smears is in the range of 15-40%. Approximately half of this is a reflection of errors in laboratory screening diagnosis and the remainder reflect inadequate sampling techniques or unavoidable instances in which the diagnostic cells are not included in the sample. This low sensitivity can be somewhat offset by increasing the frequency of screening to yearly intervals in every woman irrespective of the first two negative smears. Secondly, many observers today report an increase in adenocarcinoma among the cases of early cervical cancers, especially in young women. Unfortunately, cervical adenocarcinoma, unlike the squamous cell variety, is not preceded by a well recognised, prolonged precursor state and attempts to detect such lesions by cervical cytology are largely ineffective. In such instances, the major impact of cytologic diagnosis rests upon the detection of early occult invasive lesions, which in some reports now represent at least 20% of all early invasive carcinoma of the cervix. Lengthening the interval of the cytologic screening in a susceptible population is likely to result in failure to detect many of these conditions at an early stage in the course of the disease. Therefore, most gynecologic oncologists now recommend that all women should have annual cytologic screening for cervical neoplasia at least till the age of 65. The American College of Obstetricians and Gynecologists has recommended the same.

HOW TO SCREEN?

The classical monograph on vaginal cytology as a diagnostic tool for early cervical cancer was published by Papanicolaou and Traut in 1943 marking the beginning of the widespread acceptance of cytologic methods for diagnosis of early cervical cancer. It has been stated that "the Pap smear did more to eradication of invasive carcinoma of cervix and lower death rate from cancer in women than any other scientific contribution to date."

Now we know that most epithelial abnormalities in the cervix arise at the junction between the endocervical columnar epithelium and the ectocervical squamous epithelium, the squamo-columnar junction (SCJ). This area is also known as the transformation zone (TZ). The original Pap smear, which was a posterior fornix aspirate, depended on the fact that cells were shed from the TZ into the posterior fornix, the deepest portion of the vagina. This has now been superceded by the cervical scrape method, also called Pap smear, in which cells are scraped from the TZ directly by means of a spatula.

The sampling technique involves the scraping of the SCJ throughout its circumference. The smear should be taken before bimanual examination to exclude traumatic removal of cells and the speculum should be introduced without lubricants because these may contaminate the cell sample. After naked eye in-

spection of the cervix, the tip of the spatula is inserted into the external os and rotated through 360 degrees maintaining firm pressure. The spatula must be withdrawn carefully without touching the vaginal walls to avoid contamination with cells from the lower genital tract.

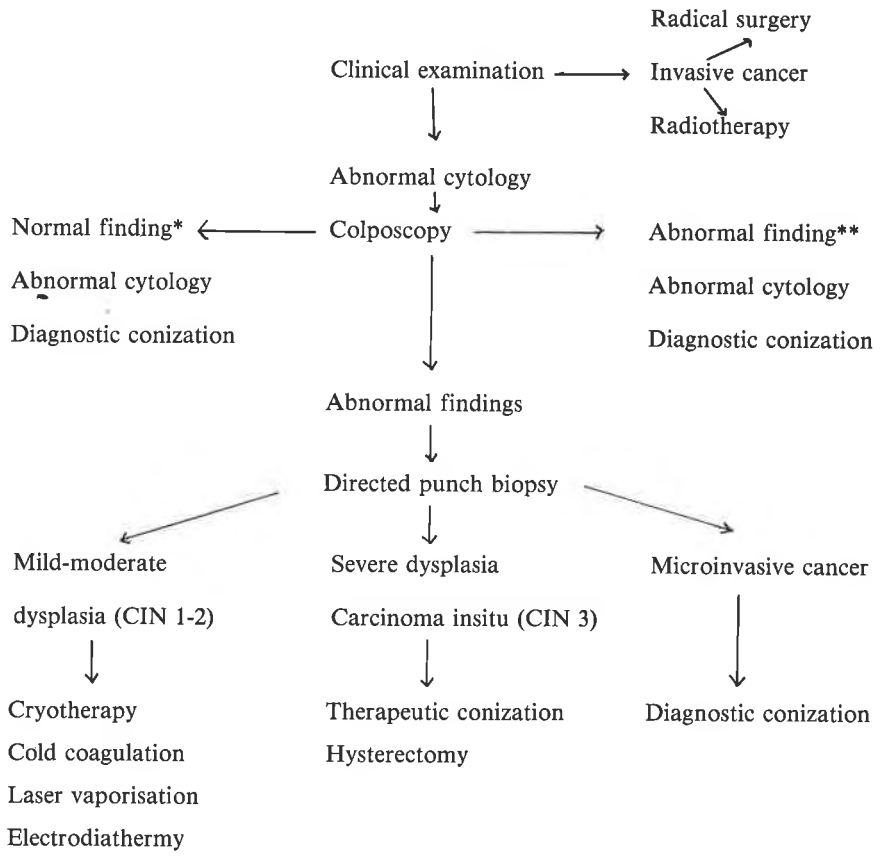
The smear is made by spreading the scraped material evenly on a glass slide which should already have the patient's name written in pencil on one end. The slide must be immersed IMMEDIATELY in a container of alcoholic fixative. If any part of the smear is permitted to dry before fixation, the cell detail will be blurred and unsuitable for interpretation.

No attempt should be made to take a smear in the presence of any obvious tumour on the cervix. These smears are often reported as negative as the surface cells scraped are mainly the necrotic slough with few carcinoma cells and difficult to interpret. Similarly, there is not much point taking a smear when the woman is actively bleeding per vaginum as the smear will be contaminated by too many rbcs, making interpretation difficult.

THE ABNORMAL SMEAR

Originally cervical smears were classified into 4 or 5 classes, class I being normal and

FIGURE 2
MANAGEMENT OF ABNORMAL CERVICAL SMEAR



* *usually in presence of suspicious/positive cytology*
** *usually in presence of a) unsatisfactory colposcopy*
b) colposcopic lesion more advanced than CIN

class IV or V being obviously abnormal containing definite malignant cells. Currently, the trend is to report the smear in full descriptive terms, stating the exact abnormality seen and predicting the possible histology.

The cervical smear can only tell that there is an abnormality. It CANNOT tell what it is or where exactly on the cervix it is. No treatment should ever be instituted on the basis of a smear report alone. If a report of an inflammatory smear is obtained, the patient can be given a course of the appropriate antibiotic and the smear repeated in six weeks. If the smear shows any atypical or abnormal cells, then the next step is to refer the patient to a gynecologist trained in colpsocopy.

The colposcope is a binocular microscope with which it is possible to examine the cervical epithelium and the subepithelial vascular pattern at magnifications varying from $\times 6$ to $\times 40$. It can be performed quickly and easily on an outpatient basis. Colposcopy is an excellent method to find out where the lesion is and it allows accurate biopsy of the abnormal area. With experience, the actual histology can be predicted with much greater accuracy than the cervical smear. However, it is important to reiterate that the final arbiter for treatment is the histological diagnosis of the lesion.

The technique of colposcopy is beyond the scope of this article, but its role in the management of abnormal smears is vital as shown in the flow chart in figure 2. It avoids conizations in patients with preinvasive lesions, for these lesions can currently be treated effectively with local ablative procedures such as cryotherapy, cold coagulation, electrodiathermy and laser vaporisation. Prior to the advent of colposcopy, the standard diagnostic procedure for an abnormal cervical smear was a cone biopsy, which is associated with much morbidity.

CONCLUSION

The incidence of invasive cervical cancer can be reduced dramatically by early diagnosis of the precursor preinvasive lesions. This is easily achieved by screening the population at risk by regular cervical smears, an easy, reliable, cost-effective method. The family physician is the first line defence in preventing the occurrence of this dreadful disease.

COMMON SKIN INFECTION: SUPERFICIAL FUNGAL INFECTIONS

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Superficial fungal infection of the skin is one of the commonest skin disease seen in general practice. There are many effective antifungal agents (oral and topical) making treatment of superficial fungal infection relatively easy. The problem in the management of fungal infection is in making a correct diagnosis. Very often superficial fungal infection is misdiagnosed as eczema and vice versa. Different fungal infection of the skin presents differently and treatment depends on the type of fungal infection. An understanding of the classification of fungal infection of the skin is essential.

CLASSIFICATION OF FUNGAL INFECTIONS

Fungal infection of the skin is divided into:-

1. superficial fungal infections and
2. deep fungal infections

Deep fungal infection e.g. chromomycosis (fig. 1) is uncommon and is difficult to treat; often requiring systemic antifungal agents; the management of patients with such infections is best left to the dermatologist and physician. However, recognition of the condition is important so that early treatment can be instituted and irreversible complications averted. In this paper only superficial fungal infections will be discussed.

SUPERFICIAL FUNGAL INFECTIONS

These include the following,

a) Dermatophytosis (Ringworm)
b) Tinea versicolor
c) Candidiasis (Moniliasis)

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Singapore

DERMATOPHYTOSIS (Tinea or Ringworm)

Dermatophytosis is probably the most common superficial fungal infection of the skin. It is caused by a group of fungi which are capable of metabolising the keratin of human epidermis, nails or hair. It is rare for true dermatophytes to penetrate into the dermis or deeper body layers and when dermatophytes infections present with dermal and subcutaneous reaction concomittent infection with other organisms, particularly bacteria must be considered. There are 3 genera of dermatophytes causing dermatophytosis viz. Microsporum, Trichophyton and Epidermophyton. Establishment of dermatophyte infection of the skin depends on 2 factors viz., the virulence of the infecting fungi and the physical condition of the skin (traumatised and macerated skin are favourable to fungal growth).

Dermatophytosis is generally named and classified according to the site of infection e.g. tinea capitis (scalp), tinea cruris (groin). Classification of the infection according to reservoir e.g. animals (zoophilic), soil (geophilic) and human (anthropophilic) may be useful in epidemiology and preventive measures against recurrent and spread of infection. e.g. An outbreak or persistence of tinea capitis due to Microsporum canis (a zoophilic) fungi may indicate infection from a pet (like, rabbits, cats, dog) at home and eradication of infection in the pet may be necessary to prevent relapses.

CLINICAL FEATURES OF DERMATOPHYTOSIS ACCORDING TO SITE

Ringworm infections are usually classified according to the site of the lesion.

Tinea Capitis

This is cause by a variety of fungi e.g. M Audouinii, M Canis, the former is usually

contracted from other individuals and the latter from animals). Tinea capitis is a childhood infection and is rare in adult. The penetration of the fungal hyphae down into the hair shaft is characteristic and affects the hair and hair follicle. Patches of non scarring scaly alopecia with broken hairs is seen (fig. 2). Infection due to zoophilic fungi tend to be more inflamed and in severe infections, boggy abscess may develop (kerion, fig. 3). Tinea capitis is clinically differentiated from other alopecia e.g. alopecia areata, lupus erythematosus, lichen planus by its scaly appearance and the presence of broken hair.

Tinea Barbae

This is ringworm of the beard or moustache and often caused by zoophilic fungi usually the Trichophyton genus. It is more common in the rural than urban community. It is an infection of the adult and the lesion is usually inflamed often with resulting scarring (fig. 4).

Tinea Corporis and Tinea Cruris

Tinea corporis is the term given to infection at any site other than the scalp, groin, hands or feet. Although various fungi show some preference in invading these other sites, tinea corporis may be caused by any of the known dermatophyte species which makes the clinical picture rather variable. The clinical picture can thus mimic a variety of dermatological conditions e.g. Pityriasis rosea, erythrasma, secondary syphilis, psoriasis, lichen planus, drug eruptions, contact dermatitis, discoid dermatitis etc.

Generally the lesions of tinea corporis are discrete, scaly and circular with a slowly advancing border which may show signs of inflammation. They tend to heal towards the centre to give a characteristic annular appearance which has been suggested as the origin of the term "ringworm" (fig 5).

Tinea cruris is ringworm infection of the groin. Lesions usually occur on the inner surface of the thighs and are scaly and erythematous, usually with a vesicular border (fig. 6). T. metagrophytes, T rubrum or E. floccosum are common causative fungi. The former tend to produce vesicular border and the latter two less vesicular but well marginated border.

Tinea Pedis (Feet) and Tinea Manuum (Hands)

The fungi responsible are similar to that in Tinea corporis but the conditions are often confused with eczema and bacterial infections of the hands and feet.

Tinea pedis (athlete's foot) is one of the commonest and most troublesome dermatophyte infection. Characteristically, the disease involves an area of peeling and maceration between the toe clefts, although in extreme cases a large portion of the foot may be involved (fig. 7). The condition is commonest in men, and it is believed to be spread in such areas as communal showers and changing rooms where small pieces of skin are shed free.

Another common superficial dermatophytosis includes Tinea faciale which present with characteristic scaly well defined lesions on the face where the helix of the ear is often involved (fig. 9).

Tinea unguum is dermatophytic infection of the nail plate. Affected nail becomes dystrophied, discoloured and hyperkeratotic (fig. 10). Onycholysis may be the initial presentation.

Special mention must be made on T rubrum infection of the palms and soles. It is also a common fungi infecting the hands, feet and nails. The clinical picture in T rubrum infection may not be as scaly as those of tinea corporis and may present with keratodermatous changes (fig. 8). Diagnosis can be confirmed by a deep fungal scraping from the keratodermatous lesions.

Tinea incognito is tinea infection where the classical features of an active annular erythematous, papulo-vesicular lesions become inapparent usually following treatment with a topical steroid. In such condition the dermatophyte continues to proliferate in the skin with its inflammatory response being suppressed by the topical steroids. The lesion appears to be responding to steroid treatment but suffers a rebound whenever the topical steroid is discontinued.

DIAGNOSIS OF DERMATOPHYTOSIS

Ideally the diagnosis of dermatophytosis should not be made until the causative

organism has been demonstrated. This can be easily achieved by scraping scales from the active border of the skin lesions or from plucked hair in case of tinea capitis. The scales are heated with KOH 10% on a microscope slide to dissolve away the keratin and subsequently examined under the microscope.

Dermatophyte is identified as branching hyphae or mycelium which looks like segmented spaghetti under the microscope.

Wood's light can be useful in tinea capitis which fluoresces a brilliant green colour as seen in a darkened room on infected scalp.

TREATMENT OF DERMATOPHYTE INFECTIONS

Topical agents are usually adequate for limited dermatophyte infection of the skin.

Whitfield ointment (benzoic acid et salicylic acid) is the cheapest effective topical agent here. However, it is greasy and may irritate inflamed skin. It is ineffective against candida infection. The imidazoles are probably the most prescribed antidermatophytic agent. There are several brands in the market e.g. Daktarin, Canestan, Pevaryl, Travogen, etc. The efficacy of each imidazoles are generally comparable. These imidazoles are advantageous to Whitfield as they are more acceptable and are effective against candida species and have mild antibacterial property as well. They are more expensive. Other antidermatophytic agents including the undecylate, tolnaftate (Tinaderm), naftifine (Exoderil), ciclopiroxolamine (Batrafen) are also effective alternatives. Quinolines e.g. vioform and polyenes e.g. nystatin are not effective against dermatophyte infection.

Combination creams containing immidazoles, steroids and antibiotics should be avoided as they increase the risk of skin sensitization and skin reaction. Topical antibotics especially neomycin and quinolines are among the common skin sensitizers in Singapore. Imidazole in combination with a mild steroid e.g. hydrocortisone may occasionally be useful as initial treatment for pruritic inflamed intertriginous ringworm infection. However such combination cream should be discontinued and substituted with plain antidermatophytes once the inflamed component clears.

Systemic treatment for dermatophytosis e.g. griseofulvin and ketoconazole are indicated in extensive and recalcitrant dermatophyte infection and specific infection such as tinea capitis, tinea barbae, tinea unguum. Griseofulvin is an effective and commonly used oral agent against dermatophytosis. Griseofulvin should be taken in doses of 500 mg to 1500 mg daily depending on body weight and should be taken after meals for maximal absorption. Side effects include gastrointestinal symptoms and photosensitivity. The duration of therapy depends on the location of dermatophytosis. Extensive tinea corporis usually require 4 to 6 weeks treatment and nails infection requires 6 to 18 months therapy.

Oral ketoconazole is an effective alternative. It has the added advantage of having anticandidal property. In a comparative study of treatment of dermatophytosis with griseofulvin and ketoconazole in Singapore, the effficacy of both were found to be similar but patients treated with oral ketoconazole appeared to have a slightly lower relapse rate.

TINEA VERSICOLOR

Tinea versicolor is a common chronic superficial fungal infection caused by Pityrosporum species, usually P orbiculare (Malassezia furfur).

Clinical Feature

The lesions are characterized discrete or concrescent scaly discoloured or depigmented areas mainly on the upper trunk. The colour varies from dark brown to gray and white (fig. 11). There is usually mild fine superficial scaliness. Occasionally the lesion may be perifollicular. Other commonly affected sites include the arms, thighs, face and hands. Pruritus may be troublesome especially with sweating but the condition may be completely asymptomatic.

Differential diagnoses include vitiligo, melesma, idiopathic guttate hypomelanosis, pityriasis alba, pityriasis rosea and post inflammatory hypopigmentations.

Diagnosis

Diagnosis can be easily confirmed by direct examination of skin scrapings. Characteristic spherical, thick walled yeasts and coarse mycelium (often fragmented to short

filaments) is seen. The Parker Quink Ink/ KOH staining technique and examination under the microscope is a simple procedure to identify the fungus.

Treatment of tinea versicolor

Topical agents are the mainstay in the treatment of tinea versicolor. Recently oral ketoconazole has been found to be useful for the treatment of severe/extensive and tinea versicolor infection and infections recalcitrant to usual topical agents.

Common topical agents against tinea versicolor include sodium hyposulphide and selenium sulphide containing preparations. The newer topical imidazoles and other wide spectrum topical antifungal agents are as effective and cause less skin irritation and easier to apply. However sodium hyposulphide and selinium sulphide when used as shampoos are effective prophylaxis against relapses. Initially sodium hyposulphide and selenium sulphide preparations should be applied nightly for 5 nights. They can be subsequently used as prophylaxis by using them as shampoos leaving the lotion on the scalp and skin for 10 to 15 minutes before bath once weekly or fortnightly to prevent relapses.

Propylene glycol (50% in alcohol) is a cheap effective alternative topical agent.

The imidazoles and other newer broad spectrum antifungals such as tolnaftate, naftifine, and ciclopiroxolamine available as cream and gel are effective and preferred topical agents be used for localized infection but those with extensive tinea versicolor, lotions and sprays are easier to use.

Oral ketoconazole in doses of 200 mg daily for 2 to 4 weeks is effective in the treatment of severe/extensive tinea versicolor infection. Various treatment regimes varying in doses of 200 mg weekly to 200 mg monthly have been reported to be effective in preventing relapse but such regime may not be as effective as reported. Great care should be taken when prescribing oral ketoconazole for this relatively benign skin infection. Past history of liver disease and abnormal liver function test are relative contraindications. Fulminating hepatitis has been reported to be associated with oral ketoconazole and it should not be used to treat mild tinea versicolor.

Post infective hypopigmentation is a common sequelae following tinea versicolor infection and this can persist for months to years. Such post infective hypopigmentation does not indicate infection and does not require any treatment. Recurrent tinea versicolor infection is common in our humid, tropical climate.

CANDIDIASIS

This is an infection caused by the yeast like fungus Candida albicans or occasionally other species of Candida.

Clinical syndromes of candidiasis include:

a Oral candidiasis (oral thrush)

This is characterized by sharply defined patches of creamy, crumbly, curd-like white pseudomembranous mucosal lesions which when removed, leave an underlying erythematous base. The buccal epithelium, the tongue, the gums or the palate may be affected. The condition occurs most commonly in the first weeks of life and there is significant association with vaginal candida carriage in the mother. Angular cheilitis and candida cheilitis produce erythematous fissures.

b. Candidiasis of the skin and genital mucous membrane

Most cases of cutaneous candidiasis occur in the skin folds or where occlusion from clothing or medical dressings produces abnormally moist conditions.

Candida intertrigo are typically erythematous, slightly moist lesions in skin folds (fig. 13, 14). It slowly spreads producing a characteristic fringed irregular edge and pustules rupturing to give tiny erosions and peeling. Pustular or papular satellite lesions are classical. Soreness, and itching may be intense. In babies the skin over the napkin areas may be affected and occasionally associated with napkin eruption. When toe webs are affected marked maceration with thick white horny layer is usually prominent. Differential diagnoses includes tinea infection, seborrhoeic dermatitis, bacterial intertrigo, and flexural psoriasis. Skin scraping helps confirm diagnosis.

Candida vulvovaginitis and balanitis present with itching and soreness. The former presents with thick creamy white discharge with characteristic cheesy plaques in the vagina while the latter usually present with transient tiny papules with peeling edges and may be associated with soreness and irritation.

c. Candida paronychia

This is chiefly found among housewives and those whose hands are frequently immersed in water. Typically, several fingers are chronically infected. The nailfold is red and swollen with loss of cuticle and detachment of nailfold from the dorsal surface and the nail plate leading to pocketing. Nail dystrophy with buckling of the nail plate and discoloration occur.

d. Chronic muco-cutaneous candidiasis

This is an uncommon condition where the patient presents with persistent candida infection of the mouth, the skin and the nails that are refractory to conventional topical therapy. It may be associated with a primary defect in immune function.

Diagnosis

Candida can be recognised on skin scrapings and smears from mucosal lesions on potassium hydroxide mount. The presence of budding yeast cells and pseudomycelium is evidence of active infection. The presence of spores alone is not evidence of active infection as yeast is a common skin commensal. Candida infection can be further confirmed by fungal cultures on Saborauds medium.

Treatment of Candidiasis

General Principle: It is important to be aware of predisposing factors which include diabetes mellitus, anaemia, imparied immune status, malignancy, long term oral antibiotics, oral steroids, cytotoxics, oral contraceptives, and pregnancy. In many cases topical therapy alone is sufficient but consideration should be given to the reduction of Candida reservoir in the mouth and gut in patients with recurrent infections.

Topical Agents: The polyene antibiotics e.g. nystatin are highly effective against Candida and most other yeast pathogens. The newer imidazoles eg, clotrimazole, miconazole and econazole and other broad spectrum antifungal agents such as tolnaftate, naftifine and ciclopirox etc. are effective alternatives. These are advantageous over the polyenes as they are available in creams and lotion preparations, are easier to apply and less messy. The affected areas should be kept dry. The time honoured Castellani paint has the advantage over the other anticandidal agents in affected toe webs and nail folds where secondary bacterial infection is common. Non staining Castellani paint is more acceptable to patients. Powders containing the newer antifungal powder e.g. imidazoles are useful adjunct on intertriginous areas and as prophylaxis in those with recurrent infections. Whitfield oint. is ineffective against candidiasis.

Causes of chronicity of superficial fungal infection

This include:

1. Wrong diagnosis.
2. Inadequate application of topical agents.
3. Griseofulvin failure may be due to,
   a. Poor compliance
   b. Poor absorption and tissue levels. (should be taken after meals.)
   c. Co-existent pathology
   d. Resistance — rare
4. Constant reinfection
5. Undetected, uncorrected predisposing factors

SUGGESTED READING:

Rook A, Wilkinson DS, Ebling FJG. Textbook of Dermatology. Oxford, London, Blackwell Scientific Publications 1979. p 767-846.

Fig. 1 Chromomycosis, a deep fungal infection. Note infiltrated granulomatous lesions. Requires systemic antifungal agent and condition is chronic.

Fig. 4 Tinea barbae. Note well defined active, inflamed margin. Inflamed lesion often heals with scarring.

Fig. 5 Tinea corporis. Note characteristic annular lesion with active scaly papular margin with central healing as lesion grows.

Fig. 2 Tinea capitis. Note localised scaly patch with irregular broken hair. Skin scraping and examination of plucked hair root will show mycelium.

Fig. 6 Tinea cruris. Note well defined margin. Inflamed lesions suggest zoophilic dermatophytic infection.

Fig. 3 Kerion. Inflamed tinea capitis with underlying abscess. Commonly a zoophilic dermatophyte infection.

Fig. 7 Tinea pedis. Note maceration and peeling in toe clefts.

Fig. 8 Tinea manuum due to Tinea rubrum. Note diffuse erythematous keratodermatous lesion on right palm. Sometimes indistinguishable from hand eczema. Skin scraping examination confirms diagnosis.

Fig. 10 Tinea unguum. Note dystrophied and discoloured nails with hyperkeratotic nail beds. Nail clippings require to be soaked in KOH overnight to dissolve away keratin before identification of mycelium is possible.

Fig. 12 Monilia intertrigo. Note macerated lesion. May be indistinguishable from Tinea pedis. Skin scraping helps differentiate diagnosis.

Fig. 14 Moniliasis in infant. Note erythematous lesions with satellite papular lesions.

Fig. 9 Tinea faciale. Note erythematous scaly lesion with well-defined border. The helix of the ear is often involved. Can be misdiagnosed contact dermatitis.

Fig. 11 Tinea versicolor. Note characteristic well defined hypopigmented lesions. Fine surface scales are characteristic. Brown to black pigmented lesions are occasionally seen. Lesions can be perifollicular.

Fig. 13 Monilial intertrigo. Note erythematous lesion along skin fold with papular settalite lesions. Occasionally pin size pustules may be seen. Predisposing factors include diabetes, antibiotics, immune deficiency, oral contraceptives, cytotoxic drugs, obesity.

3rd ASIAN-PACIFIC CONGRESS

OF NEPHROLOGY IN SINGAPORE

5 — 10 October 1986

SCIENTIFIC PROGRAMME

* **PLENARY LECTURE**

Physiology and Disorders of Water Metabolism
The Role of Platelets and Coagulation in Glomerulonephritis
Dietary Management in Renal Disease
Recent Advances in Renal Transplantation
Monoclonal Antibodies in Nephrology

* **SYMPOSIA**

Transplantation
Lupus Nephritis
Hypertension in 1986
Tubulo-interstitial Disease
IgA Nephropathy
Renal Hormones and Disease
Pregnancy and the Kidney
Renal Osteodystrophy — Recent Adances
Controversies in Nephrology
Current Concepts in Management of Urinary Infections
Nephrology in the Asian Pacific Region
Pathophysiology of Uremia
Computing in Nephroloy
New Techniques in Treatment
Dialytic Treatment of End Stage Renal Disease
Mechanisms of Renal Injury

* **KIDNEY INTERNATIONAL NEPHROLOGY FORUM**

Glucocorticoid Induced Hypertension

* **NATIONAL KIDNEY FOUNDATION LECTURE**

Current Concepts in Glomerulonephritis

* **FREE COMMUNICATIONS**

* **MEET THE EXPERTS SESSIONS** (Lunch Time)

Diuretics
Treatment of Hypertension
Treatment of Urinary Infections
Approach to Asymptomatic Haematuria and Proteinuria
Renal Stones

* **WORKSHOP ON CYCLOSPORIN**

For further information contact:

3rd ASIAN-PACIFIC CONGRESS OF NEPHROLOGY
Dept of Renal Medicine, Singapore General Hospital
Singapore 0316 Republic of Singapore Tel: 3214686

X-RAY QUIZ

A 31 year old male presented with loss of weight and abdominal colic for 6 months. Clinical examination revealed some tenderness in the right abdomen with no evidence of a palpable mass.

A barium follow through examination (Fig. 1) and subsequently a barium enema examination (Fig. 2) were performed.

There is a lesion involving the terminal ileum and caecum.

What are the differential diagnoses?

Answers on page 80

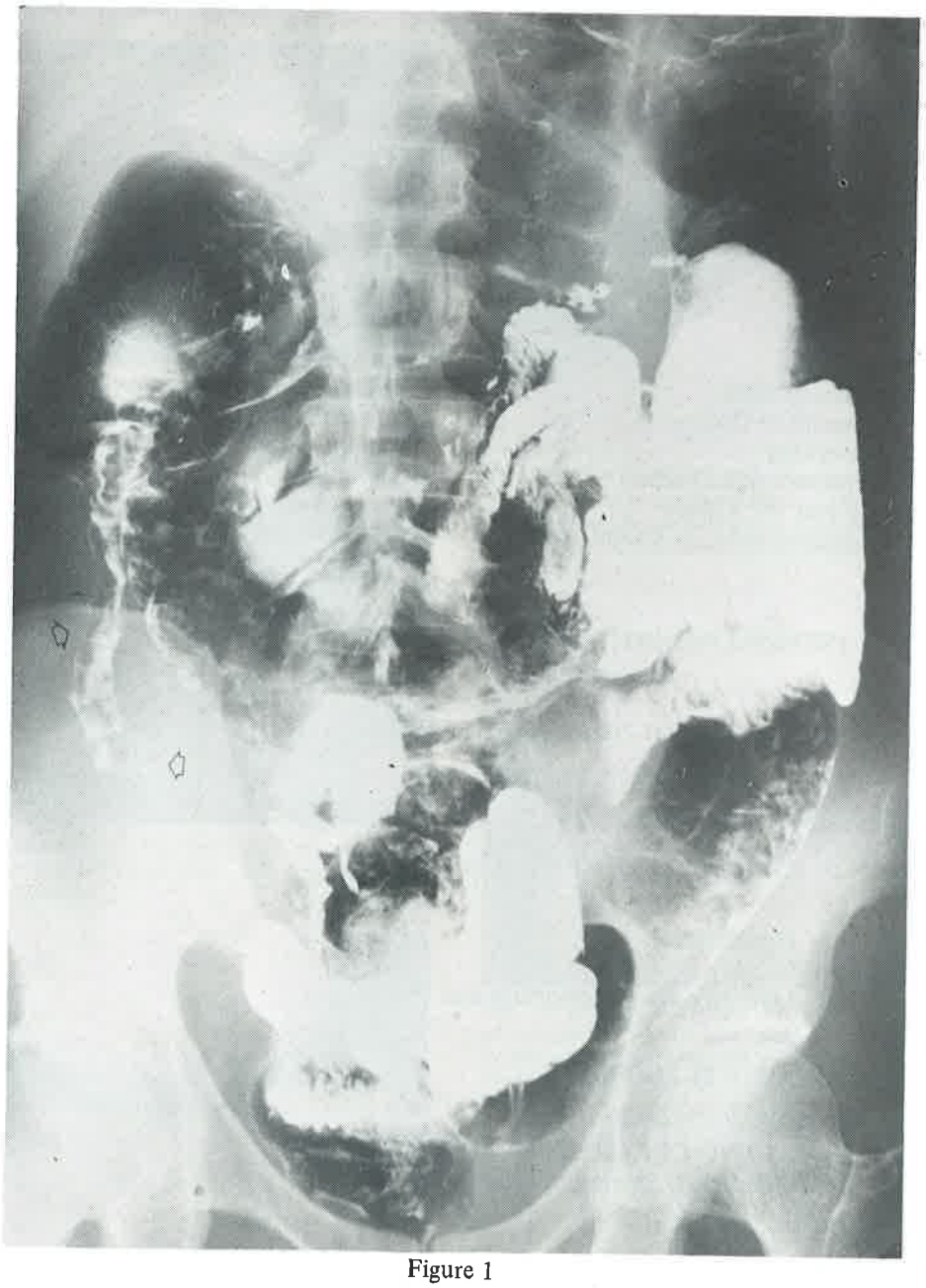


Figure 1

Figure 2

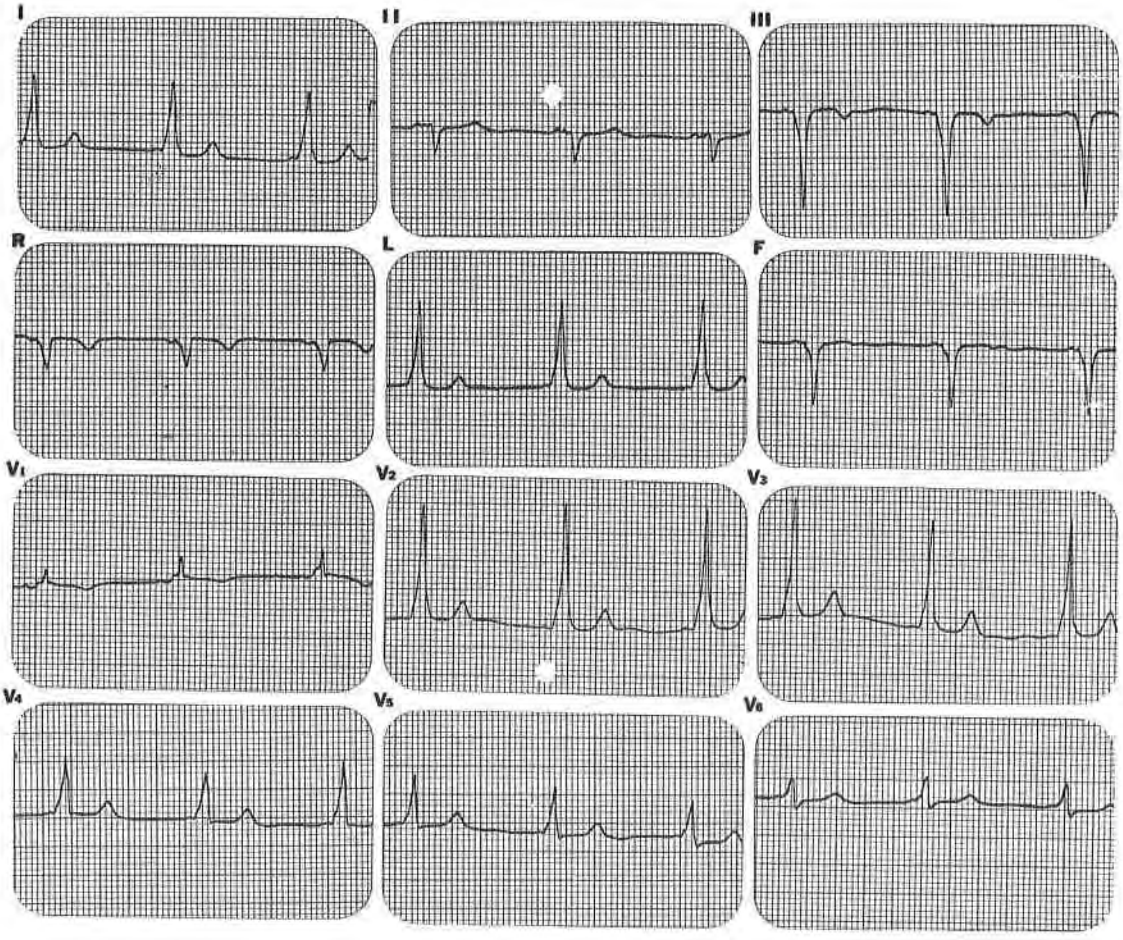
ECG QUIZ

ECG No. 1 belongs to a 53-year-old female and ECG No. 2 to a 51-year-old female. Both were asymptomatic at the time the electrocardiograms were performed and did not give any history of chest pain in the past.

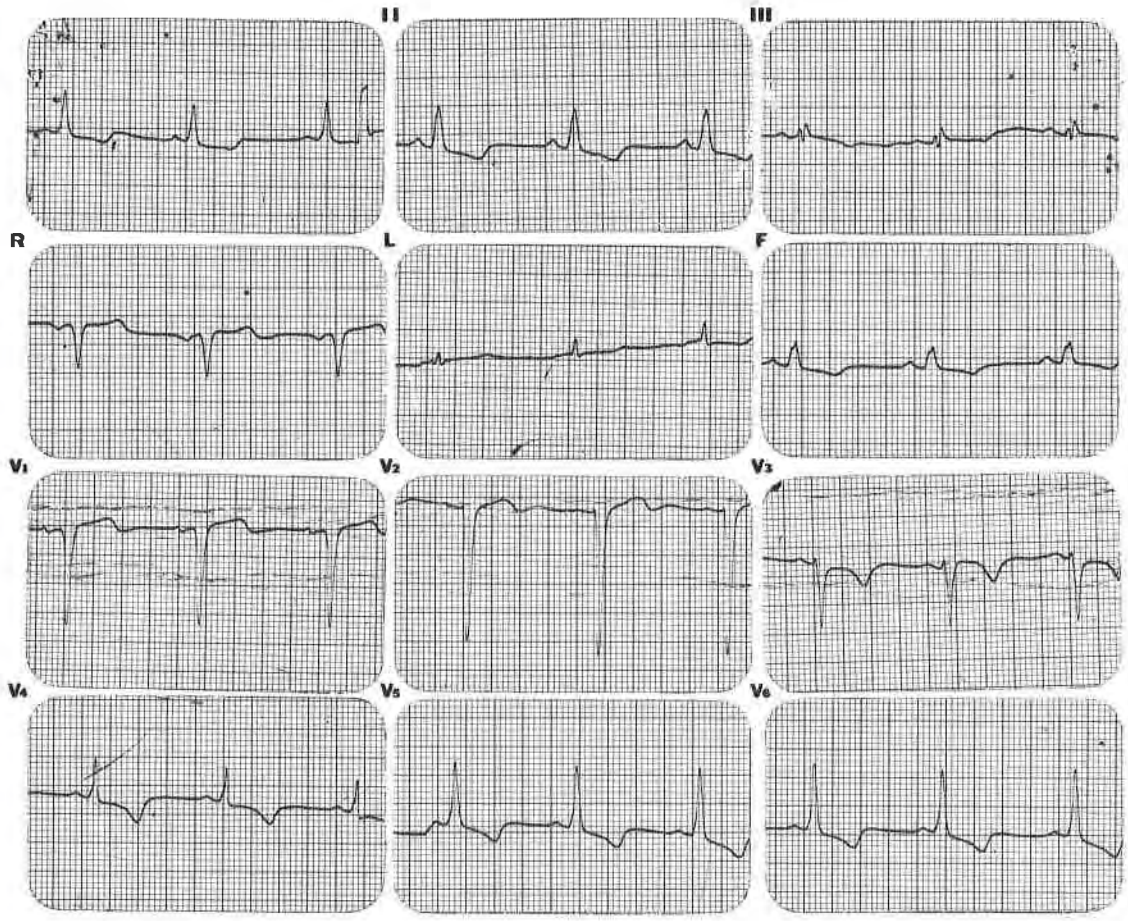
Study both electrocardiograms and answer the following questions:-

1. What is your diagnosis in each case?
2. What are the usual diagnostic criteria adopted in making such a diagnosis?
3. Is there more than one diagnosis in each patient?
4. What is the usual clinical presentation of patients with this condition?
5. What is the approach to the management of such patients?

Answers on page 81



ECG No. 1



ECG No. 2

X-RAY QUIZ —ANSWER

There is mucosal irregularity with stenosis at the terminal ileum and caecum. In addition there is shortening and retraction of the caecum.

DIAGNOSIS: ILEOCAECAL TUBERCULOSIS

The chest X-ray (Fig. 3) shows active tuberculosis in both upper and mid-zones. These radiographic findings in the bowel are nonspecific and can be produced by inflammatory processes like Crohn's disease or amoebiasis. Hypertrophic form of bowel tuberculosis can also simulate a carcinoma.

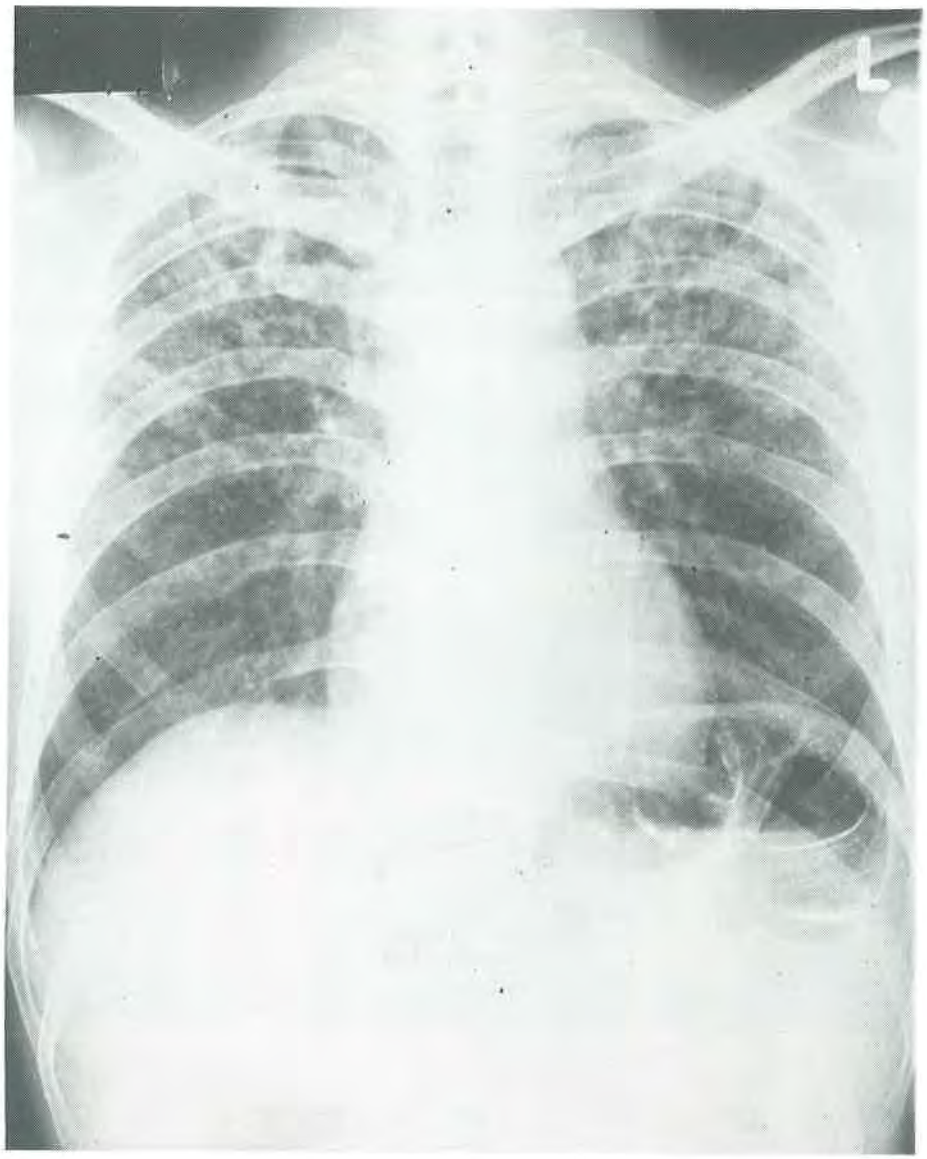


Figure 3

ECG QUIZ — ANSWERS

1. ECG No. 1 — Wolff-Parkinsion-White Syndrome Type A.
   ECG No. 2 — Wolff-Parkinson-White Syndrome Type B.

2. The diagnostic criteria of WPW Syndrome are:-

   a) A PR internval of less than 0.12 sec in the presence of sinus rhythm.

   b) an abnormally wide QRS interval complex of more than 0.10 sec.

   c) the presence of initial slurring of the QRS complex (delta wave).

   All 3 criteria must be fulfilled for the diagnosis to be made. Rosenbaum in 1945 divided WPW into a type A and a type B. Type A has positive R waves in V1 to V6 and in Type B the QRS deflection is negative in the right precordial leads V1 — V3. Later a more rare variety Type C was described in which the deflections are negative in V5, V6 but positive in V1 to V4. However much has been learned during the past 40 years and the complexities of the different bypass tracts discovered have rendered this simplistic classification inadequate.

3. No.
   ECG No. 1 appears to indicate an old inferior myocardial infarction with Q waves in II, III, AVF and ECG No. 2 appears to give the impression of an old anterior infarction. WPW Syndrome is usually associated with abnormal Q waves or QS complexes in the absence of myocardial infarction. ST segment depression and T wave inversions are also often seen. Thus WPW syndrome may simulate myocardial infarction but more importantly it may also mask myocardial infarction. For example the dominant R waves in Type A WPW may mask an acute anterior infarction.

4. The patient usually complains of episodes of palpitations or rapid heart action resulting from supraventricular tachycardia or atrial fibrillation.

5. If arrhythmias occur infrequently and are not associated with significant symptoms the patient requires no treatment. If however the arrhythmia occurs frequently and is associated with significant symptoms drug therapy is indicated. In the acute situation when the patient has supraventricular tachycardia the drug of choice is I V Verapamil. When atrial fibrillation is present the drug of choice is I V Procainamide. For preventive long term therapy it is best to individualise drug therapy based on electrophysiological studies. The variety of drugs which have been used with variable successes are digoxin, betablockers, quinidine, procainamide, disopyramide, encainide and amiodarone.

   Surgical division of the accessory pathway is recommended for patients who have a) frequent symptomatic arrhythmias that are uncontrolled by conventional drug therapy, b) rapid A-V conduction over the accessory pathway during atrial fibrillation/flutter, and in whom drug therapy fails to obtain significant slowing of the ventricular response, c) Surgery may also be appropriate for young patients who otherwise would have to receive life-long anti-arrhythmic drugs with their attendent side effects.

   Pacemakers either automatic or patient activated when an arrhythmia begins can also be used to effectively terminate A-V reentrant tachycardia. Transvenous catheter ablation of accessory pathway is a promising new treatment modality currently under investigation.

NEWS FROM THE COUNCIL

1. Temporary relocation of the College premises/offices

As from July 1986, the College offices will be relocated at:

HARROWER HALL
(Old Pharmacology Building)
College Road
Singapore 0316

The Telephone number will remain the same i.e. 2230606.

Please address all future correspondence to the above address.

2. Twelfth College Examination

14 candidates have successfully applied to sit the above examination which will be conducted on:

Sunday, 19 October 1986 — Theory
Sunday, 26 October 1986 — Clinicals
Sunday, 2 November 1986 — Clinicals

Special Clinical Sessions in Paediatrics and Internal Medicine (Adult) are being organised for the candidates.

3. Internal Medicine Upate

The next Continuing Medical Education Course to be organised bythe C.M.E. Committee will be on Internal Medicine. It is scheduled to commence on 11 July 1986. The programme is as follows:

Theme: CURRENT MANAGEMENT IN INTERNAL MEDICINE (I)

Date	Topic	Lecturer
11 July 1986	Parkinson's Disease	Dr G. Devathasan MBBS, M Med (Int Med), MRCP
18 July 1986	Space Occupying Lesions in the Brain	Mr Gopal Baratham FRCS
25 July 1986	Cerebrovascular Diseases	Dr Loong Si Chin FRACP
1 August 1986	Urinary Tract Infections	Dr Pwee Hock Swee M Med (Int Med), FRACP
8 August 1986	Diabetes Mellitus I: Screening and Evaluation	Dr John Tambyah FRACP
15 August 1986	The Kidney in Systemic Diseases	Dr Gordon Ku FRACP, DCH (Eng)
22 August 1986	Diabetes Mellitus II: Complications	Prof Cheah Jin Seng FRACP
29 August 1986	Leukaemias	Dr Ng Hoo Wah MBBS, M Med (Int Med)

4. Proceedings of the Tenth WONCA World Conference, May 1983

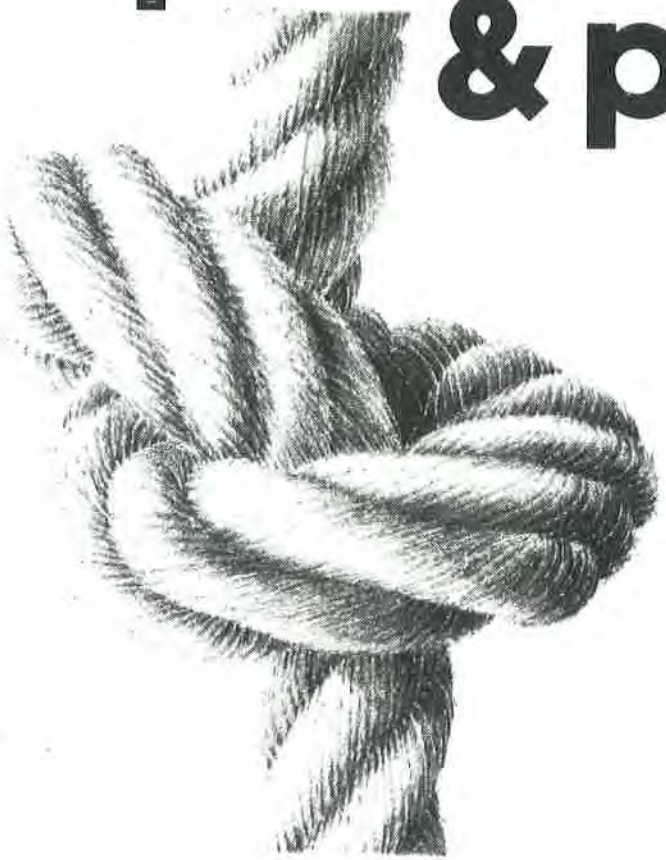
A few copies of the above Proceedings are available for distribution at the College Secretariat. Members interested in obtaining a copy are requested to collect it as soon as possible. Distribution will be strictly on "first come first served" basis.

5. New Members

The following have been accepted by Council into the membership of the College during the months of April-June, 1986:

Dr Tan Wah Ghee (Mrs Sugino)	— Ordinary Membership
Dr Choo Hock Leong, Raymond	— Associate Membership
Dr Lim Yu Her	— Associate Membership

Emotional factors such as anxiety and tension cause somatic disturbances of the abdominal organs due to cholinergic hyperactivity resulting in spasm & pain



Librax controls spasm and pain with emotional overlay

Clidinium bromide to calm the gut. Chlordiazepoxide to calm the mind.

Composition
〈Librax〉 contains 5 mg 7-chloro-2-methylamino-5-phenyl-3 H-1, 4-benzodiazepepine 4-oxide (active substance of〈Librium〉[Trade Mark] and 2 5 mg 1-methyl-3-benziloyloxyquinuclidinium bromide (clidinium bromide) per dragee

Properties
Combining the anxiolytic effect of 〈Librium〉 with the anticholinergic action of clidinium bromide, 〈Librax〉 provides rapid stabilization of visceromotor function

Indications
Gastric and duodenal ulcer, gastroduodenitis, hypersecretion and hypermotility of the gastrointestinal tract, nervous dyspepsia, biliary dyskinesia, irritable or spastic colon, colitis, diarrhea Ureteric spasm and dyskinesia, irritable bladder, nocturnal enuressi Dysmenorrhea

Dosage
3—4 dragees daily according to the severity of the case Elderly and debilitated patients, initially 1—2 dragees daily, increased gradually to the most effective well-tolerated dose In dysmenorrhea 〈Librax〉 should be taken from three to four days before menstruation The dragees should be taken with a little liquid before meals and at bedtime

Tolerance
In therapeutic doses 〈Librax〉 is well tolerated As with all anticholinergic substances certain side effects of a harmless character such as dryness of the mouth, constipation and urinary hesitancy may occasionally occur In elderly patients slight drowsiness may sometimes be observed, especially at the beginning of treatment; it usually disappears after a few days with or without reduction of dosage Particular caution is advised in administering 〈Librax〉 to patients with prostatic hypertrophy 〈Librax〉 is contraindicated in the presence of glaucoma
With 〈Librax〉 as with other psychoactive substances, patients should avoid taking alcohol while under the influence of the treatment, since the individual response cannot be foreseen. Like all medicaments of this type, 〈Librax〉 may modify the patient's reactions (driving ability, behaviour in traffic, etc.) to varying extent depending on dosage, administration and individual susceptibility

Packings
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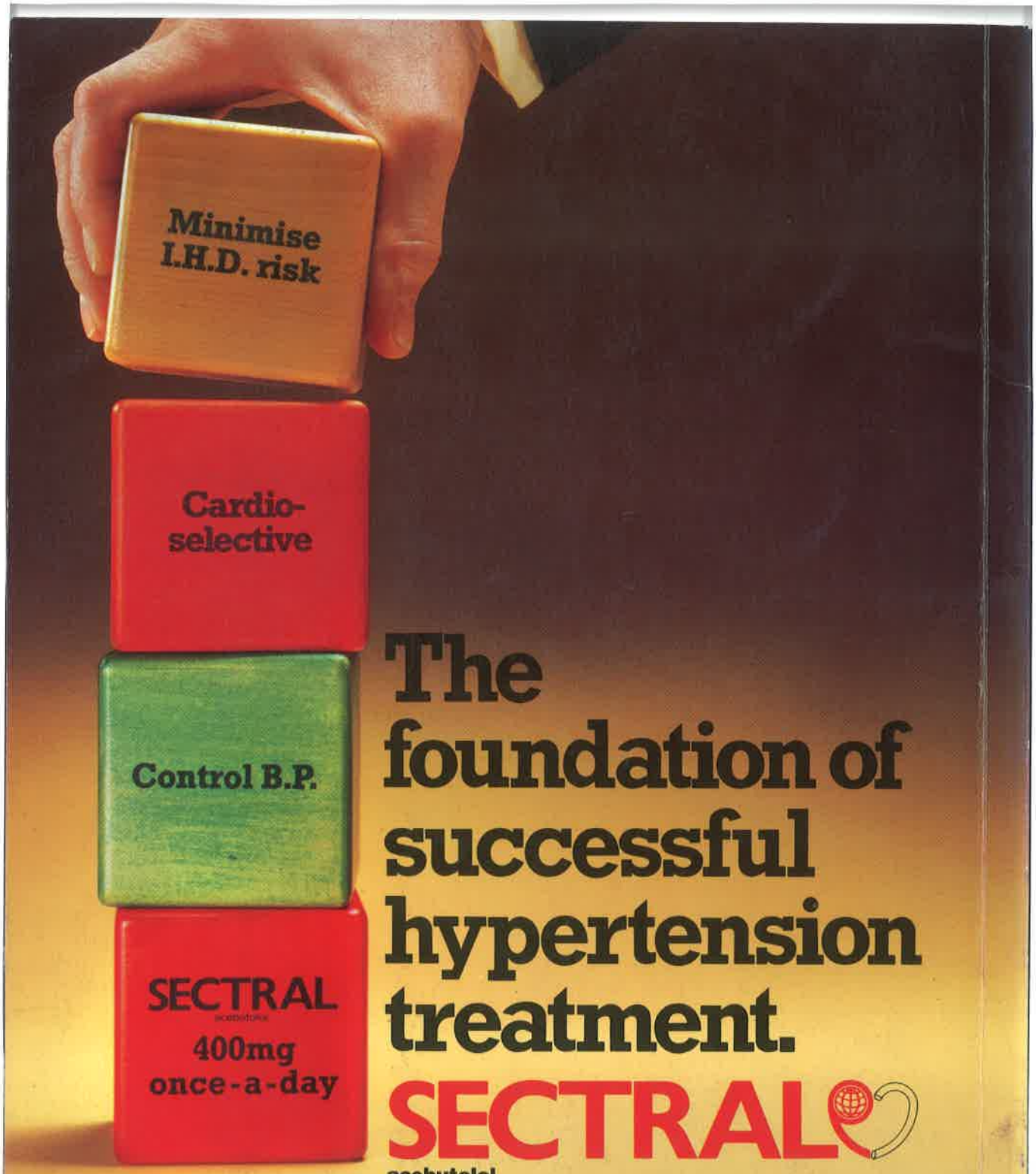
TENTH COUNCIL (1985-87)

Standing: (left to right): Drs Tan Kok Yong, Paul Chan Swee Mong, Soh Cheow Beng, Omar bin Saleh Talib, Moti H Vaswani and Henry Yeo Peng Hock

Sitting: (left to right): Drs Sivakami Devi, Alfred Loh Wee Tiong, Lee Suan Yew, Goh Lee Gan and Lim Kim Leong



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acebutolol

SECTRAL PRESCRIBING INFORMATION
Dosage: *(Hypertension).* 400mg orally once daily at breakfast. If response inadequate after two weeks increase up to 800mg once daily at breakfast. *(Angina).* 400mg orally once daily at breakfast or 200mg twice daily. In severe forms up to 300mg t.i.d. may be required. *(Cardiac arrhythmias) Intravenous:* In severe arrhythmias dosage depends on the degree of urgency and clinical state of the patient. 25mg may be administered fairly rapidly intravenously over 3-5 minutes. Initial dose may be followed by a further 25mg slow infusion over an hour or more, again depending on urgency. *Oral:* May take about three hours to exert its full effect. Thereafter dosage may be maintained at 100-200mg two or three times a day. **Contra-indications:** Cardiogenic shock, heart block. Sectral should not be used with verapamil or within several days of verapamil therapy (or vice versa). **Precautions:** In asthmatics; in pregnancy and those with blood pressures of the order of 100/60 or below. In the presence of bradycardia: with catecholamine-depleting drugs such as reserpine; signs of heart failure; with insulin dependent diabetes and metabolic acidosis dosage adjustment may be required. If preferred, discontinue 24-48 hours before anaesthesia. If a beta-blocker and clonidine are given concurrently, the clonidine should not be discontinued until several days after the withdrawal of the beta-blocker (see Prescribing Information on clonidine). **Side-effects:** Bradycardia, gastro-intestinal effects, depression have occurred infrequently. There have been reports of skin rashes/dry eyes associated with the use of all beta-adrenoceptor blocking drugs. Symptoms have cleared when treatment was withdrawn. Discontinuation should be considered if such reaction is inexplicable, cessation of therapy with beta-blockers should be gradual. Sectral is a trademark. Further information is available from: May & Baker (Singapore) Pte. Ltd., 14 Chin Bee Road, Jurong, PO Box 21, Jurong Town Post Office, Singapore 9161. Tel: Singapore 2656244.

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