



The Madras Clinical Journal

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STATE SECRETARY'S ANNOUNCEMENT:

DRUGS ACT, 1940, AND DRUGS RULES, 1945 — ENFORCEMENT OF

The Drugs Controller, Madras State, has solicited the co-operation of all members of the medical profession in his efforts to enforce the provisions of the Drugs Act and the Drugs Rules framed thereunder in the interests of the general public. In this connection the Advisory Committee on Drugs Control, of which the President of the Madras State Branch of I. M. A. is a member, has considered the ways and means to prevent the sale by dealers of schedule H and L Drugs without prescription, and has arrived at certain decisions.

It may be noted from the Rule 65 (9) and (10) of the Drugs Rules, 1945, reproduced herein for the information of members, that schedule H and L Drugs should be sold by retail only on and in accordance with a prescription containing the particulars laid down. The attention of all the members of the medical profession is therefore invited to this provision, and they are requested to co-operate with the Drugs Controller and his subordinates in the effective enforcement of the rules, by writing the prescriptions in respect of Schedule H and L drugs strictly in accordance with the provisions of rule 65 (10) of the Drugs Rules, 1945. The members are also requested to send written requisitions to the Chemists and Druggists for supply of the said drugs required for their professional use, as far as possible, in order to prevent the supply being made to unqualified persons misusing the names of registered medical practitioners.

The earnest and full co-operation of all the members of the medical profession is solicited in this regard.

Extract from the Drugs Rules

“65. (9) Substances specified in Schedules H and L and preparations containing such substances shall not be sold by retail except on and in accordance with the prescription of a registered medical practitioner.

Provided that no prescription shall be required for sale or supply to a registered medical practitioner, hospital, infirmary or an institution approved by an order of a licensing authority.

(10) For the purposes of clause (9) a prescription shall —

- (a) be in writing and be signed by the person giving it with his usual signature and be dated by him;
- (b) specify the name and address of the person for whose treatment it is given;
- (c) indicate the total amount of the medicine to be supplied and the dose to be taken”.

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Schedule H and L drugs — See cover page iii.

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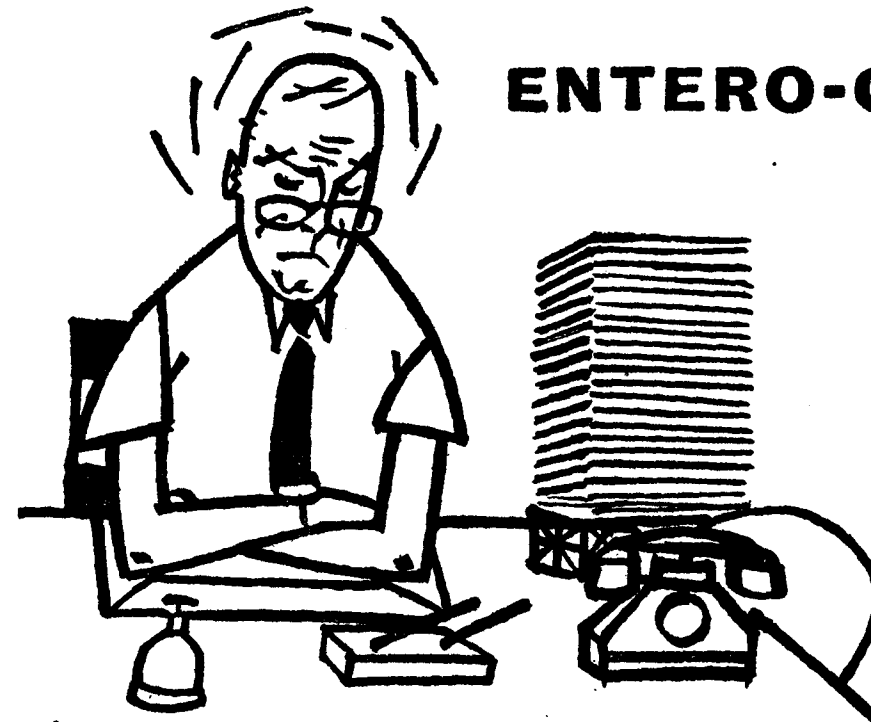
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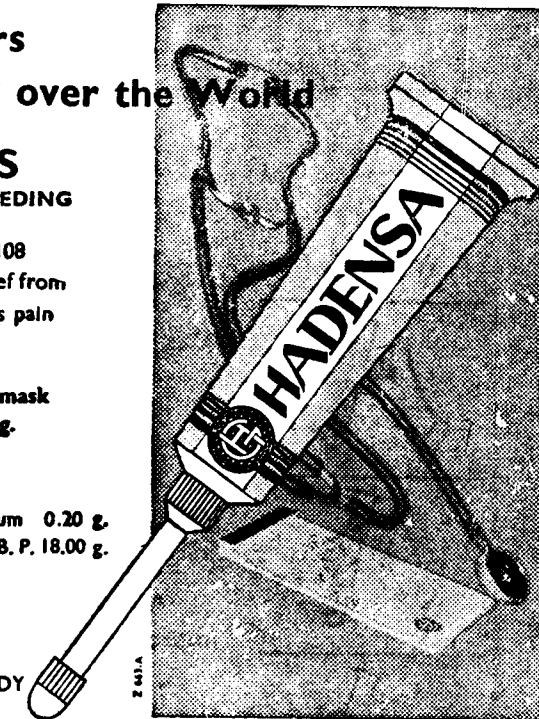
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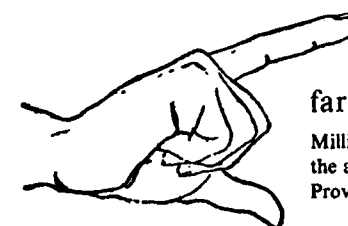
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The Madras Clinical Journal

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JOURNAL OF THE MADRAS STATE BRANCH OF THE INDIAN MEDICAL ASSOCIATION

(WITH WHICH IS INCORPORATED THE "MISCELLANY")

Vol. XXVII

March 1961

No. 9

ACUTE PERFORATION OF THE SMALL INTESTINES

E. S. CHELLAPPA, M. B., B. S., F. R. C. S. (E), Surgeon and
G. C. ANBUNATHAN, M. B., B. S., M. R. C. P. (E),
D. T. M. & H. (E), D. M. R., Physician
The Christian Mission Hospital, Madurai.

It is not our purpose in this paper to make a systematic and comprehensive survey of this important and not uncommon surgical emergency. We shall present a few cases of perforation of different types and aetiology and discuss some significant aspects of this question.

Case I: Mr. K. T. age 64 years.

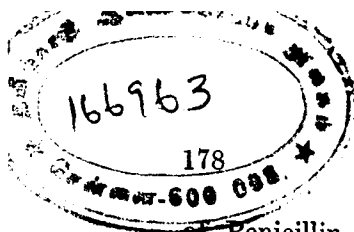
Admitted on 3-10-1959, for severe abdominal pain of four days' duration, associated with profuse sweating.

Patient had vague epigastric discomfort for 15 days immediately before the onset of pain. A local practitioner was treating him with Irgapyrin tablets and Butazolidine injection for muscular aches and pains. Patient had a castor oil purgative at home with no good results. No history suggestive of peptic ulcer was available. His general condition on admission was fair with pulse 100 per minute, volume and tension fair, respiration 25 per minute, temperature 98.4° F. B. P. 130/80. He had

distension of upper abdomen with moderate muscle guarding and tenderness. Liver dullness obliterated and peristaltic sounds could not be heard. Leucocytosis of 15,600.

He was given two enemas resulting in the production of some faecal matter, but distension not relieved. Plain x-ray of abdomen showed distended coils of large gut with multiple fluid levels, suggestive of large gut obstruction.

Operation Notes: Right para-median incision; liver, parietal peritoneum, transverse colon found adherent and sealing a large space containing much bilestained fluid. On aspirating this fluid, a chronic duodenal ulcer was found with perforation admitting the index finger. Some of the fluid had leaked into the peritoneal cavity. The transverse colon was found to be much distended and congested. There was no obstruction in the colon. The perforation was closed with No. 00 chromic cat gut sutures. Two grammes of Streptomycin and 8 lakhs



L-211, N34

of Penicillin powder left in the peritoneal cavity. Abdomen closed in layers without drainage using No. 1 chromic cat gut for peritoneum and fascia and No. 20 cotton for skin.

DISCUSSION :

1. This case is interesting in more than one way. From the point of view of diagnosis, the provisional diagnosis was one of acute on chronic large bowel obstruction possibly by a carcinoma of the transverse colon, even though a perforation of an ulcer in some part of the gut was thought of as a possibility in view of the history of Irgapyrin administration before the onset of acute pain. The age of the patient, distension of the abdomen, especially of the upper abdomen, a fair result from each of the enemas and the distension of the transverse colon seen in the x-ray picture—all suggested a partial large gut obstruction. Unfortunately, the x-ray picture taken immediately on admission was not high enough to show any gas shadow under the diaphragm. The absence of bowel sounds does not necessarily rule out large gut obstruction especially when the case presents itself four days after the onset of acute pain. However, the absence of bowel sounds is significant in the light of operative findings of duodenal perforation with a limited peritonitis. The distension of transverse colon particularly was caused by paralysis of the gut as it formed one wall of the large collection of bile stained encysted fluid, resulting from the perforation and the peritonitis.

2. It is also interesting that with such a chronic duodenal ulcer the patient did not give a longer history of pain.

3. Thirdly, it is remarkable that with such a large perforation, there was not a more diffuse peritonitis

and that four days after perforation, the patient should be well enough to successfully undergo an operation. He reports occasionally for a check-up and he is able to eat a good meal and has no pain.

4. Fourthly, what influence did Irgapyrin have on the precipitation of the perforation and on the large size of the perforation admitting a finger?

PHYSICIAN'S COMMENTS :

Phenyl Butazone : Is sold under the proprietary names such as BUTAZOLIDIN and IRGAPYRIN. Irgapyrin contains Butazolidin and Aminopyrin. These are available in ampoules for intramuscular injections as well as tablets for oral use. Phenyl Butazone as you know is given in various forms of arthritis, especially rheumatoid arthritis, ankylosing spondylitis and osteo-arthritis. Apart from the analgesic action, it has some degree of anti-rheumatic and anti-pyretic effect. It is a good drug very useful in a number of painful arthritic conditions. However, it can act as a double-edged sword and may produce toxic side effects also, such as reactivation of a healed peptic ulcer. An already existing peptic ulcer may bleed or perforate. It may also produce symptoms of gastritis.

1. The prevention of such side effects should be attempted by avoiding the indiscriminate use of these drugs. A careful history should be taken in order to exclude any previous history of peptic ulcer.

2. Antacids such as Alumag tablets should be used side by side to prevent gastric irritation.

3. A bland diet during the period of therapy.

4. Frequent observations looking for peptic ulcer or perforations.

Case II. Mr. D. P. age 32 years.

A case of recurrent allergic dermatitis was admitted on 5—3—1960. In addition to Antistine and other supportive treatment, he was given Prednisolone (25 mgm.) Q 6 H from 5—3—1960 to 10—3—1960. On 10—3—1960 at 4 P. M. the patient complained of sudden and severe pain in the right side of chest and right hypochondrium. There was difficulty in breathing and swallowing and there was profuse sweating. Pulse 68 p. m. V & T. — fair. B. P. 110/60 mm. of Hg.

Lungs : Crepitation all over the lung fields, which had also been heard on 7—3—1960 before the present attack of pain.

Board like rigidity in the epigastrium.

Liver : Dullness obliterated.

Peristaltic sounds very feebly heard. A bed x-ray showed gas under both diaphragms. The patient had not given any history suggestive of peptic ulcer.

Operation Notes : A perforation 4 mm. in diameter on a scar on the anterior wall of duodenum adjacent to the pylorus. Some bile stained fluid was removed by suction. The perforation was closed with three layers of suture and the abdomen closed without drainage after dusting the area with one gramme of Streptomycin and 4 lakhs of Penicillin. The perforation occurred while the patient was in the ward and was diagnosed immediately as such, caused by prednisolone. The patient recovered.

PHYSICIAN'S COMMENTS :

Cortico - Steroids : The occurrence of undesirable side effects with Cortico-Steroids varies with individual susceptibility. The frequency and intensity of reactions bear a direct relationship to the size of dosage, the duration of administration, sex and type of drug used. PREDNISONE AND PREDNISOLONE, when compared to CORTISONE, provide a greater chance of gastro-intestinal complications. By gastro-intestinal complications, I mean re-activation of peptic ulcer or perforation or haemorrhage from an existing ulcer any where in the gastro-intestinal tract. Perforation of typhoid ulcers, ulcerative colitis and tuberculous ulcers are not uncommon. In post-operative cases Cortico-steroids may delay the healing of the wound and the wound may gape unexpectedly.

As you know, the general effects of Cortico-Steroids on an individual is to produce a general sense of well-being, to minimise inflammatory effects and to mask any symptoms such as toxæmia. The patient with ulcerative colitis, for instance, might have perforated her intestines and yet may not have a complaint to make. In a casual examination, one may find the board like rigidity of the abdomen and x-ray investigation may show sub-diaphragmatic air.

Prevention :

- (1) Non-irritating bland food.
- (2) The tablets to be administered after food, not in empty stomach.
- (3) Antacid tablets.

It has been noticed that doses larger than 75 mgm. of Cortisone or 20 mgm. of Prednisolone or Prednisone

are more likely to produce gastro-intestinal complications than smaller doses. As I have already pointed out, Prednisone and Prednisolone appear to be more dangerous than Cortisone itself in this respect. The newer corticosteroids such as Dexamethazine, Triamcinalone are relatively much less dangerous than their predecessors.

When a patient has developed a perforation following the administration of Cortico-steroids, some people would stop the Cortico-steroids which caused the perforation. Other authors recommend that the Cortico-steroid should be continued, while there are still others who think that the dosage should be increased. The rational way of looking at the situation is to first of all find out what type of Cortico-steroid was used in the particular case and if a change to a more benign derivative could be made, it should be considered. The second thing is if the dosage already given was too much, it may be reduced or if the dosage was insufficient, it should be increased. In view of the fact that the administration of Cortico-steroids produces a certain inhibition on the trophic hormone of the anterior pituitary and in course of time there is loss of Cortisone naturally produced by the individual, a sudden stoppage of Cortico-steroid may produce a profound shock and may even lead to an adrenal crisis. This is the reason why the American authors recommend continuance of the Cortico-steroids inspite of perforation.

ACUTE GASTRIC AND DUODENAL PERFORATIONS :

Perforations from peptic ulcer provide the largest percentage of perforations of the alimentary tract, in India as in most other countries,

though the frequency may not be so great here as in the more advanced Western Countries. The classical signs, symptoms and differential diagnosis are found in every text-book of surgery and I shall not repeat them except to say that it would be fatal to confuse it with acute coronary thrombosis.

As regards treatment, conservative non-operative treatment of duodenal perforation has been proved from statistical studies to result in a higher mortality rate than immediate surgery. At the other extreme, there are those especially from North America who would advocate partial gastro-duodenectomy as the operation of choice. Even as a routine operation for duodenal ulcer without perforation, this operation is on the decline, much less could we think of it as a suitable procedure in the case of perforation especially in our country where such emergencies are not rushed to the hospital immediately. In most centres in India, simple closure of the perforation is preferred. However, in selected cases, which can be operated within five or six hours of the onset of perforation and the patient's general condition is fair, in addition to closing the perforation, a routine vagotomy and posterior gastro-enterostomy with a stoma placed near the pylorus may be advisable. This will be specifically indicated in cases of perforation with pyloric stenosis.

A word about mortality rates : The mortality rates for perforated peptic ulcer operated on at different time intervals are as follows :—

“ The fatality rate when operation is performed within six hours of the onset of pain approaches to zero ; when operation is performed from 6 to 12 hours after perforation, the

fatality is between 5 to 10 per cent ; when performed twelve to twenty four hours after perforation, the fatality rate is 25% or higher ; operations performed after the third day are seldom successful ”. (IAN AIRD)

But these figures need to be revised in view of the effect of the broad spectrum antibiotics available in recent years and the outlook is less gloomy than depicted even in cases operated after 24 hours. Such is our impression from our own experience in this hospital, even though accurate statistics are not possible because our patients do not always give a correct history.

Case III. Mr. N. K. S. Hindu, male aged 35 years.

Admitted at 10-30 p. m. on 4-4-1960 for acute pain in the left side of the abdomen of 30 hours' duration, associated with vomiting and profuse sweating. Pain continuous in nature, aggravated by slight movements. He had an enema at home the previous day with poor results. Later, he had frequent small motions without blood or mucus.

He was a chronic alcoholic. His general condition was fair, tongue clean and moist ; pulse 132 p. m. ; temperature 102.4° F ; respiration 30 per minute. B. P. 128/86. Abdomen was uniformly distended with tenderness all over more marked in the left iliac fossa. Generalised muscle guarding present ; no mass palpable ; liver dullness obliterated. Peristaltic sounds heard. There was leucocytosis of 16,000. Plain x-ray of abdomen showed distended coils of small intestine with multiple fluid levels and sub-diaphragmatic gas. Blood Widal was negative.

Operation notes : Left para median incision with horizontal extension for two inches across the top of the incision. The small intestines were found to be somewhat distended and congested. There was turbid free fluid in the peritoneal cavity. There was no perforation in the stomach or duodenum. About 3 feet proximal to the terminal ileum, the ileum was involved in a process of acute inflammation with patches of petichelial haemorrhages scattered on the serous surface. There was redness and oedema of the intestinal walls and corresponding mesentery of the portions affected. There were fibrinous adhesions between the small intestines and the omentum, colon and parietal peritoneum in the left iliac fossa. When these were freed, a very small perforation was found near the mesenteric border about 3 feet proximal to the ileo-caecal junction. The perforation was closed with layers of 00 chromic cat gut and covered over with a piece omentum. After removing the free peritoneal exudate by suction and swabbing, 1 gramme of Streptomycin powder and 4 lakhs of Penicillin were left in the peritoneal cavity. Rubber tissue drain was also left in and brought out through a stab wound on the left side of the main incision. Abdomen was closed in layers using No. 1 chromic cat gut for peritoneum and fascia and No. 20 cotton for skin.

DISCUSSION :

The patient presented a picture of acute peritonitis on admission. The x-ray picture made it evident that it was a case of perforation with peritonitis. The location of pain and maximum tenderness over the left iliac fossa and the absence of any history suggestive of peptic

ulcer, suggested the possibility of a perforated diverticulitis of the left colon rather than the more common peptic ulcer perforation. Hence a left para median incision was made. Technically the operation was made difficult because of the great obesity of the patient who was a chronic alcoholic and the intestines were covered over with much fat. The aetiology of the perforation is uncertain. Ambulant typhoid is unlikely because of the negative Widal. Other rare causes of perforation in the ileum are:—

1. Perforation caused by ectopic gastric mucosa which is more common in the jejunum.
2. Perforation of a tuberculous ulcer of the intestines. Perforation is rare because of the thickening of the peritoneum; but we have had a case of acute perforation which did well with a laparotomy and chemotherapy.
3. An acute Crohn's disease or regional ileitis presents itself with a picture of acute appendicitis and the correct diagnosis is usually established only at operation. But it can affect any part of the gut including caecum, ileum and jejunum.

In this particular case, an acute Crohn's disease is likely because of oedematous thickening and redness of the particular loop of ileum which perforated. The patient recovered and has been in good health except for a very mild attack of infective hepatitis three weeks ago which cleared up quickly within a week.

Primary Non-peptic Ulcer of Jejunum: While discussing obscure perforations of the small gut, the uncommon condition, namely, simple jejunal ulcer need to be kept in mind

especially because perforation is the most common occurrence revealing the presence of a simple jejunal ulcer. According to Litwin and Crabe, a total of 91 cases have so far been recorded in literature, the first description of such a case dating back to 1805. The ulcer occurs commonly in the first half of the jejunum and the symptoms are similar to those of duodenal ulcer except that the pain is situated lower down in the para or sub-umbilical region. Its commonest complication is perforation which causes pain, tenderness and rigidity more to the left of the mid line.

The treatment advised is re-section of the affected loop of jejunum.

Case IV. Mr. L. S. age 20 years.

Admitted on 27—8—'60 for severe abdominal pain of four days' duration, preceded by fever for three weeks. Patient was taken in a comatose condition to a local practitioner who gave Chloramphenicol for four days. The temperature came down to normal after which period he developed abdominal pain of a severe nature with symptoms of perforation. Steclin was started and continued for another three days before he was brought to this hospital.

General condition: Patient did not look very toxic; pulse rate 86 p. m. B. P. 180/60. Abdomen not distended. There was generalised tenderness and muscle guarding. No mass was palpable. Liver dullness obliterated; few peristaltic sounds heard. T. L. C. 6200. D. L. C. N. 74%, E. 3%, L. 21%, M. 2%.

Plain x-ray of abdomen showed gas under the diaphragm with dilated coils of large intestines.

Operation Notes: Right para median incision. The small intestines were distended and there were signs of general peritonitis. The inflammatory changes with fibrinous exudate were marked towards the terminal ileum. There was some turbid free fluid in the abdomen. About 6" proximal to the ileo-caecal junction there was a large transverse perforation admitting a finger and one inch proximal to it there was another perforation 3" in diameter. The perforations were closed with two layers of No. 00 chromic cat gut sutures. An avascular adhesion distal to the higher perforation was divided. All free fluid was removed by suction and swabbing. The intestines were partly deflated through the perforation before closing it. The area was dusted with 1 gramme of Streptomycin powder. A rubber tissue drain was left in the iliac fossa and pelvis and brought out through a supra-pubic wound on the right side. Abdomen closed in layers using No. 1 chromic cat gut for peritoneum and No. 20 cotton for skin.

DISCUSSION:

The onset of symptoms caused by typhoid perforation is not always dramatic as in other perforations. In fact the onset may be insidious especially when the patient is on Chloramphenicol. The patient may fail to complain of pain because of the delirious condition and the distension of the gut caused by paralytic ileus which predisposes the perforation may itself mask the signs of perforation and subsequent peritonitis.

An initial fall in temperature with a steady rising pulse rate, increasing paralytic ileus and free fluid in the abdomen are guides to the correct diagnosis. X-ray may or may not

show gas under diaphragm because of tendency of the surrounding area to be sealed off by adhesion. It is advisable to examine gently every case of typhoid fever morning and evening especially from the end of the second week till the fourth week keeping in mind the ever present danger of perforation even in cases where the temperature may come down quickly with drug therapy.

Regarding treatment, while immediate operation and closure of perforation has been the time honoured line of treatment, recently many surgeons advocate conservative treatment on the Orachner Sherron lines with continuous suction of intestines and intravenous fluids and proper maintenance of salt balance and heavy doses of Chloramphenicol up to 2 gm. Q 4 H parenterally and by mouth in the initial stages. Hickstep of East Africa reports as low as twenty per cent mortality in twenty one cases of typhoid perforation treated in such conservative lines; whereas a survey of reports in 1958 gives the average mortality rate for operative treatment as over 80%. Hickstep recommends operative treatment only for exceptional cases such as sudden perforation in convalescent patients and perforation with other surgical complications as localised abscess.

In the case reported, even though the patient came for admission four days after the perforation and one of the perforations was big enough to admit easily a finger, the patient's general condition on admission was good. The abdominal distension had completely disappeared after the operation and the pulse rate, volume and tension were very satisfactory. Such a hopeful state is no doubt due to the fact that he had been treated previous to this perforation with

Chloromycetin and for the four days after perforation with Tetracycline by the attending practitioner. However, the case with such a big perforation cannot possibly recover with conservative treatment alone.

PHYSICIAN'S COMMENTS :

Chloramphenicol : Chloramphenicol sold under the proprietary names of Chloromycetin, Synthomycetin, etc. may be the symbol of man's conquest over typhoid fever. Still as every good thing on earth may also have some undesirable aspects, one has to be warned against the side effects of Chloramphenicol also. I shall not touch upon agranulocytosis, aplastic anaemia, etc. I want to say something about Chloramphenicol in relation to acute gastro-intestinal perforations. May I draw your attention to the fact that most of the signs and symptoms of perforation are the result of a smaller or a larger degree of peritonitis. Chloramphenicol by minimising the symptoms of peritonitis and removing to a large extent the toxæmia of typhoid fever may mask the symptoms of acute perforation in a typhoid patient that one may well be deceived. It should also be remembered that Chloramphenicol, while reducing the toxicity of typhoid fever, does not produce healing of the intestinal ulcer any faster than the usual period of three weeks. So a patient may be afebrile, may not be toxic and yet perforate his bowels while on Chloramphenicol. For instance, in a patient convalescing from typhoid fever, perforation may occur or a perforation might occur following a relapse.

Though some text-books advocate a shorter treatment with Chloramphenicol, it is safer to continue the drug for about 3 weeks or ten days

after the fever settles down. Still it cannot be guaranteed that there will be no relapse, but if a relapse should occur, Chloramphenicol should be recommended. All the time we should remember and look for signs of perforation and give prompt surgical treatment.

CONCLUSION :

In conclusion, perhaps no other cause of acute abdomen calls for an early and definite diagnosis and quick decision to operate or not as this grave emergency of acute perforation. When the patient presents himself in time and immediate surgery is undertaken, the results are highly satisfying to the surgeon; and to the patient it is an exchange of life for death.

*In all stages of Intestinal
Amœbiasis*

**PRESCRIBE
ENTROKIN**
B. C. P. W. Iodochloroxyquinoline

LOW TOXICITY
HIGH THERAPEUTIC VALUE

★

Also useful in
OTHER INTESTINAL INFECTIONS
OF VARIOUS AETIOLOGY

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THE GENITO-URINARY TRACT IN OBSTETRICS AND GYNAECOLOGY*

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UROLOGY comprises the study of diseases of the Uro-genital tract.

No specialist in Obstetrics and Gynaecology can expect to maintain a high standard of practice without a sound knowledge of diseases which affect the urinary tract. So important is an understanding of this inter-relationship that gynaecological urology has almost become a subspeciality. The relationship is intimate anatomically, embryologically and from the point of view of disturbances in function as well as by alteration in structure by disease. Alterations in structure and disturbances of urinary function may occur and both these seriously affect the management of the patient.

The urinary tract is made up of the following structures—the kidneys, the ureters, the bladder and the urethra. Each structure may be affected by a great variety of diseases of gynaecological or obstetric origin. Certain of these diseases may be secondary to gynaecological disorders or may be the result of changes resulting from pregnancy, labour or the puerperium.

Disease is rarely localised to one organ or a part of it. Yet, for convenience, we usually take each of these organs which comprise the urinary system separately and describe all diseases with special emphasis on those that are common and of importance to the practitioner. It

must be remembered that always the urinary tract should be considered as a whole and anatomical divisions are arbitrary and exist only for convenience.

Methods of Investigations in Urology

Before any investigations are undertaken, it is very important to take a detailed history and to perform an abdominal examination with special reference to the genito urinary organs. The genito urinary system may be conveniently divided into four parts :

- (1) Kidney
- (2) Ureter
- (3) Bladder
- (4) Urethra

In order to help in taking a detailed history, the following points are included in the private case sheet which the author has had printed for his personal use.

History

Renal pain/dull ache in costovertebral angle/renal colic/uretral colic/frequency of micturition-diurnal, nocturnal/polyuria/oliguria anuria pyuria/haematuria/haemoglobinuria/chyluria/glycosuria/suprapubic ache/vesical pain/urethral pain (dysuria)/stranguria/acute or chronic retention/retention with overflow/incontinence-true, tonic, or false/stress incontinence/total incontinence/stream-continuous, hesitancy, impaired, interrupted, force of projection/post

* Reprinted by courtesy of the Editor, Surgical and Medical News, 1960.

urinary dribbling/dribbling in addition to normal micturition/details of the act of micturition/character of urine/other.

Abdominal Examination

The examination should be with special reference to the kidneys, ureters and bladder of which only two structures are readily palpable when diseased.

Modern methods of investigation of the urinary tract has enabled one to acquire a high degree of precision in diagnosis. The most important method of diagnosis is of course the examination of the urine.

The urine may be collected by asking the patient to pass it into a receptacle, but there is the possibility of contamination by vaginal discharges. During the period of menstrual bleeding, urine may appear to be blood-stained. It is important, therefore, that a clean sample of urine is obtained. One method of doing so is to get a mid-stream specimen. Provided the patient is co-operative and intelligent and the nurse resourceful, this may readily be obtained. The external parts should be cleansed and the urethra should be wiped with a clean moist cotton swab. The patient may then be encouraged to void. As she does so, a mid-stream sample may be collected into a clean glass test-tube. When this is not possible, it may be necessary to catheterise a patient. This should be done with precautions against sepsis. The utmost cleanliness should be enjoined in this procedure. Catheterisation of the female is not difficult. Either a short metal catheter may be used or a rubber one. The difficulty arises only when there is disease of urethra such as a stricture or when the urethra has been displaced or distorted by tumours or other disease in the pelvis.

The urine may be examined in the usual way. Sometimes it may be necessary to examine it under the microscope. The centrifuged deposit of urine should be examined for red-cells, pus cells, casts, organisms or other material. When infection is suspected, bacteriological studies may be required and the urine may be cultured for pathogenic organisms. In special cases when tuberculosis is suspected, special methods for the detection of that organism may be required.

Examination of the urine and the urinary tract

URINE

- Quantity
- Colour and transparency
- Consistency/dilute/concentrated
- Reaction/acid/alkaline
- Specific gravity
- Albumin
- Sugar (Benedicts)
- Phosphates/urates/uric acid
- Bile pigments - urobilinogen / urobilin
- Naked eye characters of the deposit
- Blood and its derivatives
- Ketone bodies
- Urinary chlorides (Fantus' test)
- Estimation of albumin (Esbach)
- Centrifuged deposit of urine
- Uric acid / urates / phosphates / calcium oxalate/cystine/other
- Redblood cells / leucocytes / epithelium/casts/foreign bodies
- Culture of urine for pathogens
- Renal function and other tests
- Plain x-ray of the abdomen and pelvis
- Intravenous pyelogram
- Cystogram/pneumo-cystogram
- Cystoscopy

Other special investigations (aortography, retroperitoneal air insufflation, etc.)

An important special method of investigation is a plain x-ray. This helps to reveal the presence of urinary diseases such as calculus or calcified areas in a tuberculous kidney.

A modification of this procedure is the use of an intravenous dye to study the urinary tract. Some radio-opaque substance is injected into the vein. This is taken up and excreted by the kidney. As this substance is being excreted, serial x-rays may be taken. This will reveal the outline and position of the urinary tract.

Urographic studies are of great importance in many gynaecological and obstetric conditions. In certain cases, it may be necessary to inject a radio-opaque dye into the ureter. This can be done only through a cystoscope and therefore cystoscopy is an essential prerequisite.

Cystoscopy and urethroscopy are important methods of studying the lower reaches of the urinary tract under direct vision.

The manner in which cystoscopy came into prominence in gynaecology is of some historical interest. Howard Kelly had been working for some time at visualising the female bladder through a simple speculum with a glass-window with the patient in the knee-chest position. The nurse on one occasion handed him a speculum in which the window had been accidentally broken. When he passed it into the bladder of the female in the knee-chest position, air was sucked in and the bladder was ballooned out. Kelly thus visualized the interior of the bladder through a cystoscope and through the medium of air for the

first time and passed a catheter into the ureter under direct vision. For this account we are indebted to Richard Te Linde. The purpose of visualizing the bladder is to exclude disease in this organ.

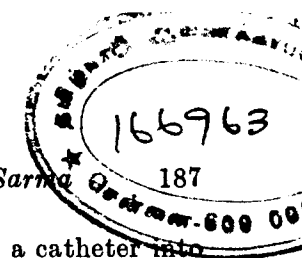
A hitherto neglected procedure although equally important in the study of disease of the urethra is urethroscopy. Urethroscopy has proved useful and as a method of investigation has received considerable prominence. There are other methods of studying the function of the urinary tract as well as its structural derangements.

Cromo-cystography consists in injecting a coloured dye such as methylene blue into the blood stream and determining how long it takes before the dye appears from the ureteral orifices into the bladder. This gives an indication of the state of urinary function and helps to localize the ureteral orifices, if they are not readily seen at cystoscopy.

Cystography consists in injecting a radio-opaque dye into the bladder. Sometimes instead of injecting dye, air may be injected. Then this procedure is called pneumo-cystography. These procedures are of use in the localisation of the placenta in case of antepartum bleeding where a placenta praevia is suspected.

Another method of studying the bladder is by means of cystometry. This is widely employed in the study of stress incontinence in the female as well as other diseases of the bladder which affect its function.

While the various methods of studying the urinary tract has been outlined, the importance of a careful clinical examination of the patient cannot be over-stressed. The general



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examination of the patient, the examination of the abdomen, the inspection of the urethral meatus, the procedure of milking the urethra for evidence of purulent discharge, routine palpation of the urethra, the bladder and the lower parts of ureter during a gynaecological examination—all this should not be forgotten. In all gynaecological examinations of the pelvis, the urinary tract which is so intimately related to the genital tract should not be overlooked.

The Kidney and its pelvis:

Congenital anomalies of the kidney are sometimes encountered. The kidney may be absent on one side. Danger to the other kidney either by way of the burden of pregnancy or the result of operative injury may end in disaster. A rare condition is the pelvic kidney which may be mistakenly removed for a pelvic tumour.

Acquired disease may interfere with the functions of the kidney. When function is gravely impaired, the amount of urine secreted is diminished (oliguria), or sometimes completely suppressed (anuria). There are many causes for this; but these fall under three groups—pre-renal, renal and post-renal.

Haemorrhage, shock, severe dehydration, anaemia, and heart failure are all pre-renal causes. Any of these may be encountered in the practice of obstetrics and gynaecology.

The renal causes comprise cortical necrosis of the kidney, acute tubular nephrosis and a variety of other conditions. Symmetrical cortical necrosis is a lethal condition except when the damage to the renal cortex is patchy. Septic abortion especially with a *Clostridium Welchii* infection, haemorrhage and prolonged obstructed labour are some conditions of

obstetric and gynaecological interest which cause cortical necrosis.

Lower nephron nephrosis is not so serious because the lesion is reversible, the tubules of the kidney regenerate after some time and the patient recovers. The problem is, therefore, one of keeping the patient alive during this interval of time which may be as long as seven days. Septic abortion, puerperal sepsis, concealed accidental haemorrhage and eclampsia are some lesions which give rise to lower nephron nephrosis. It is desirable to include the reaction which follows the transfusion of incompatible blood as well as the toxic effects of therapy with the easily precipitated group of sulphonamide drugs.

Post-renal causes for anuria include obstruction to the passage of urine along the ureter, bladder or urethra. There are many causes of obstruction. Precipitation of sulphonamides, deposits of calculi and other pathological lesions may occlude the lumen. So too may fibrosis which follows operative injury or inflammation; compression and distortion by a pelvic malignant tumour, notably cervical cancer, is another important cause.

When obstruction to the urinary tract is gradual and progressive, the result is dilatation above the site of the lesion and the ureter and kidney become dilated (hydro-nephrosis). Urine stagnates; infection supervenes; a pyo-nephrosis may then result.

Haematuria is a symptom of a number of renal tract diseases. The importance of this is that blood stained urine may be confused by the patient for a bloody vaginal discharge, and a serious renal cause (infection, calculus or new growth) may be overlooked.

Sterile pyuria is a typical symptom of renal tuberculosis.

Renal pain (colic) may simulate the pain of various gynaecological disorders.

The kidneys function at a disadvantage during pregnancy. It is imperative that when renal disease is already present, the risks of embarking on a pregnancy have to be seriously evaluated.

Ureter:

Of the many congenital malformations of the ureter, the condition in which an accessory ureter opens into the vagina and offers a rare cause for urinary incontinence is a very interesting one although rare.

Certain congenital abnormalities of the genital tract may cause obstruction to the flow of discharges from the uterus and vagina. Before menstruation is established the secretions collect and give rise to a hydrometrocolpos. Once menstruation has become established, menstrual bleeding is added to the normal secretions of the uterine mucosa. This collects in the vagina and causes considerable distension. The distended vagina may reach such a large size that it may present as an abdomino-pelvic tumour. The tumour may rise above the level of the symphysis pubis and may even cause a visible abnormality in the abdominal contour. The uterus may be palpable as a flattened ovoid structure, surmounting the swelling. The extreme bulging of the vagina may cause it to protrude into the rectum. It may also give rise to considerable distortion of the urethra predisposing to attacks of acute retention of urine. In rare cases the tumour may press on the ureter of one side or the other and obstruct the free discharge of

urine. This leads to a hydroureter and hydro-nephrosis. It is important in the investigation of all congenital malformations of the lower genital tract to perform urographic studies to determine whether or not associated malformations of the urinary tract are present.

In pregnancy the renal pelvis and calyces dilate and the ureteral musculature becomes atonic. There is a variable degree of kinking and lateral displacement of the ureters, which is more marked on the right side. Two factors operate. The important factor is the hormonal influence of pregnancy. The relevant hormone is believed to be progesterone. The physical compression by the enlarging uterus does not seem to be an important factor, although this may operate in the case of the right ureter. Dilatation of the renal pelvis and ureter favours stasis. Stagnant urine is an excellent breeding ground for infection. That is why pyelonephritis is so common during pregnancy. The renal tract returns to normal within a fortnight after delivery, but infection delays this process. In difficult labour a concentrated urine is secreted.

The ureters may become displaced by pelvic tumours. Because they lie behind the peritoneum, retro-peritoneal tumours are the ones which are most likely to displace them. In addition to cervical fibromyomas, broadligament cysts and tumours, the ureter may become displaced in conditions such as pelvic infections, endometriosis and neoplasms of the ovary.

The lower part of the ureters may become pulled down and distorted in serious degrees of prolapse. Occasionally the ureter of one side becomes

kinked by the uterine artery or pressed on by the levatores ani muscles. The occlusion of the lumen of an ureter may then result in hydro-ureter and hydro-nephrosis.

When a malignant tumour of the cervix extends laterally, it displaces the ureter and occludes its lumen. Actual infiltration is rare. Unilateral hydro-nephrosis especially in a female should invariably lead the gynaecologist to exclude cervical cancer even if there are no gynaecological symptoms. The urinary tract has been studied in cases of cancer of the cervix. In advanced cervix cancer there is invariably urinary tract involvement. There is obstruction or occlusion of the ureter. There is also some degree of oedema, inflammation and direct invasion of the ureteral wall by tumour cells.

Whenever carcinoma of the cervix extends into the parametrial tissues, the urinary tract is involved and gets obstructed. Radiation can also give rise to scarring of the parametrial tissues and lead to partial obstruction of the lumen of the ureter and subsequent hydronephrosis or hydronephrosis of that side. "The natural termination of most cases of uterine cancer is through uraemia by the occlusion of the ureters." (Ewing).

It is very important that all cases of carcinoma of the cervix, both before starting surgical or irradiation treatment as well as during the post operative period, should be followed up by urographic studies.

In the practice of gynaecological surgery, pre-operative urography is of great value to outline deviated or dilated ureters. Urography reflects on renal function also and knowledge about this is very necessary. During

operations such as hysterectomy varying in its extent from a simple removal to a Wertheim's or even of pelvic exenteration, it is important to have the ureter constantly in mind and to avoid injury to it. The pelvic portion of the ureter runs close to the cervix and is very prone to injury. It may be divided, clamped or wounded. If it does become inadvertently injured, it is imperative that this should be recognized immediately and repaired.

The Bladder:

Gross anomalies of the bladder do not offer a problem in obstetrics and gynaecology, although they are encountered on very rare occasions. Developmental defects such as the presence of a cloaca without the development of a separate bladder and vagina need only be mentioned because of its interest. Minor degrees of malformation such as a congenital diverticulum, an aberrant ureteric opening in the bladder or deficiency of the bladder trigone are of importance in as far as they lead the gynaecologist to suspect abnormalities elsewhere in the urinary tract, and prompts him to undertake further investigation before submitting the patient to an operation. A diverticulum of the bladder forms a reservoir where urine stagnates and becomes infected. Until a diverticulum is recognized and removed, recurrent attacks of cystitis occur, and antibiotics and chemotherapy merely alleviate symptoms.

Cystitis is a very common complication of pregnancy and sometimes of the puerperium. Transient 'stress incontinence' following childbirth is by no means rare.

Distortion of the bladder and the urethra by a retroverted gravid uterus is an occasional complication

of pregnancy. It gives rise to acute retention at about the 14th week. Neglect of this condition can be serious, because if spontaneous correction of the uterus does not take place, an acute exfoliative gangrenous cystitis may result with its serious sequelae.

Obstetric trauma is the commonest cause for genital fistulae of which vesico-vaginal fistula is the commonest type.

The danger of mistaking a full bladder for an ovarian or other pelvic or abdominal tumour in gynaecological practice is often quoted. This mistake need never occur provided the precaution of getting the bladder emptied before a pelvic examination is invariably taken.

Ovarian tumours and fibroids impacted in the pelvis may present with acute retention.

The bladder may be pulled down and distorted in a prolapse (cystocele) and difficulty in micturition is a common symptom.

Rarely pelvic endometriosis involves the bladder and gives rise to intermittent attacks of haematuria. Chronic cervicitis may give rise to a trigonitis and sometimes to dysuria.

Advanced cervical cancer invades the bladder giving rise to frequency of micturition in the early stages. It causes haematuria when it has ulcerated through. Complete destruction creates a vesico-vaginal fistula.

There are a number of diseases of the bladder which give rise to disturbances of micturition, but reflex disturbance may occur in certain

female ailments also. Early pregnancy, prolapse and painful vaginal or introital lesions, all cause frequency.

It is important to look at the bladder (cystoscopy) before deciding upon the correct line of treatment, let alone before operating. This applies most emphatically to cases of genital endometriosis, tuberculosis and cancer of the uterine cervix.

The bladder is prone to injury at gynaecological operations. There is an alteration in the relation of the bladder to the uterus in labour, and when operations such as lower segment Caesarean sections are done, special care should be taken to avoid injury to the bladder.

Cystography is a useful procedure in the diagnosis of placenta praevia.

The Urethra:

Congenital malformations of the female urethra are very rare and do not offer a problem in gynaecological practice. Congenital prolapse of the urethra is known and it may be associated with an angiomatous state of its mucosa. It causes frequency and intermittent attacks of dysuria and sometimes of haematuria as well. A diverticulum of the urethra when it occurs has to be differentiated from a cystocele. The importance of it is that it permits a stagnant reservoir of urine to collect and hence predisposes to recurrent attacks of cystitis.

Urethritis may be due to a variety of infections. The gonococcus is notorious and causes an intensely painful dysuria. Occasionally a periurethral abscess develops as a result of infection of one of the gland ducts in the urethral mucosa.

Urethritis may cause dyspareunia. A polypoid appearance may be seen on urethroscopy in cases of chronic long standing urethritis. Congenital strictures of the urethra are very rare. When present, they may be associated with congenital malformations elsewhere in the urinary tract. Stricture may follow injury or infection. Post-traumatic and post-inflammatory fibrosis of the urethra is very rare. Prolapse of the urethral mucosa sometimes occurs usually in elderly women and is a cause for post-menopausal bleeding or a bloody discharge.

The discharge of sugar-laden urine through the urethra as in diabetes mellitus gives rise to an irritant vaginal discharge in which monilial organisms thrive. When pruritis vulvae is present as well as a monilial vulvo-vaginitis, diabetes mellitus should be excluded.

Women and young girls with auto-erotic tendencies sometimes insert foreign bodies into the urethra or vagina. The presence of small objects such as these, or occasionally of a calculus in the urethra, may be felt through the anterior wall of the vagina.

Caruncles of the urethra are usually very painful and tend to bleed. It must be remembered that atypical caruncles exist which are not painful. Unless the patient is examined in the lithotomy position and the urethral orifice is inspected as a part of every gynaecological examination, this condition may not be recognized and the patient sent away to the urologist as a case of "haematuria of unknown origin" for investigation.

Simple tumours like papillomata, angiomatica and fibromyomata of the urethra are uncommon. Of the

malignant neoplasms, cancer of the urethra is extremely rare but is important because, unless diagnosed early it soon becomes inoperable. Scalding and frequency of micturition and a blood stained discharge are some of the symptoms, while the friable nature of the growth and its readiness to bleed are characters which demand urgent biopsy and histological study to establish its true nature.

The Sub-urethral mass:

Several types of pathological lesions may be encountered in gynaecological practice in a site close to the urethra. These swellings may arise either in relation to the urethra such as an urethrocele, Skene's duct cyst abscess or diverticulum of the urethra and thus be of great interest to the gynaecological urologist. On the other hand, the swelling may arise from vaginal tissues and take the form of inclusion cysts, fibromas, lipomas, carcinomas or sarcomas. In this connection should also be remembered a mass which is secondary to tumours in distant areas. Of special urological interest are vaginal metastasis from a renal hypernephroma (Bowes 1935). Such a tumour was first recorded by Heinkel in 1906 in a patient 60 years of age. There were multiple vaginal tumours in addition to skin tumours. The primary was thought at first to be from a cancer of the uterus; but subsequent autopsy studies showed that the origin of the growth was from a hypernephroma of the left kidney. Often symptoms due to vaginal metastasis manifest themselves before the presence of a primary malignant tumour of the kidney is discovered. The swelling is usually situated on the anterior wall of the vagina close to the external

urethral meatus. Another malignant mass which is characteristically sub-urethral in its position is a secondary deposit from a primary chorion-epithelioma of the uterus. These present as purplish nodules on the anterior vaginal wall close to the urethral meatus and resemble varicose veins. A swelling may arise from ectopic tissues also such as an extension of Gartner's duct cyst, anomalous ureter, or a diverticulum of the bladder.

Conclusion :

An obstetrician who cannot see beyond the confines of his speciality

is indeed a poor physician. A gynaecologist who cannot envisage or diagnose disease in organs other than those which strictly concern the female genital tract, and is not equipped to deal with them suitably when he encounters them, is an untrained surgeon.

The proximity of the urinary tract to the genital tract and the way in which disease in one affects the other makes it imperative that a sound knowledge of the principles of urological medicine and surgery is indispensable to the practising obstetrician and gynaecologist.

THE 15th MADRAS STATE MEDICAL CONFERENCE

The 15th Madras State Medical Conference will be held under the auspices of the Nilgiris Branch of the Indian Medical Association. The Conference will be held on the 1st of April 1961 at the "Tamilagam" (Arranmore Palace), Ootacamund. The Conference will be inaugurated by the Hon'ble Shri D. P. Karmarkar, Union Minister for Public Health, Government of India, Delhi. The Annual Meeting of the State Council of the Madras State Branch of I. M. A. will also be held along with the Conference on 1—4—1961. Programme, with individual invitations, will be sent to all members very shortly. All members of the I. M. A. are requested to extend their help and cooperation by attending the Conference and making it a grand success.

11/56, Thiruvankataswami Road,
R. S. Puram,
Coimbatore - 2.

M. P. JESUDASEN,
Honorary State Secretary,
Madras State Branch, I. M. A.

HAEMATURIA—ITS CAUSES, DIAGNOSIS AND TREATMENT*

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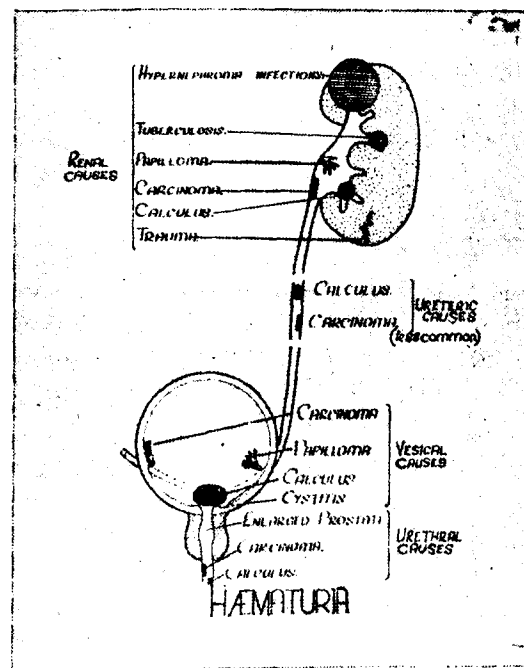
It is not uncommon to meet with a patient, in private practice with the presenting symptom of haematuria. It is an important symptom in urinary disease and occurs in about 20% of cases attending a urological clinic. It has got an unfortunate tendency to stop spontaneously or with general treatment, only to recur at a later date. But the attending physician should not rest assured until he has found the cause and site of bleeding. Only by adopting this policy can one detect the disease at its early stages and give permanent relief to the suffering patient. I

would like to emphasise that one can find the cause of bleeding in 24% of cases and of these 40% are due to neoplasms in the genito urinary tract.

In haematuria, the blood in urine may be so small that the microscope is required for its detection or may be so great in quantity that the fluid appears to consist wholly of blood. An appearance resembling blood in urine occurs in haemoglobinuria and after ingestion of drugs like Rhubarb, Senna, Sulphonal, etc. The final test of haematuria, however, is the demonstration of R. B. C. in the urine by the microscope.

The common causes of haematuria can be classified as follows:

- I. Haematuria due to causes within the urinary tract.
 - II. Haematuria in general disease.
 - III. From diseases invading the urinary tract.
- I. Haematuria from causes within the urinary tract:
- A. Renal.
 1. Congenital anomalies (polycystic disease)
 2. Injuries.
 3. Motility.
 4. Calculi or crystals.



Causes of Haematuria

* Notes of the lecture given before the Trichy District Medical Association at Trichy, on 17-12-1960.

5. Infections
 - (a) Acute: pyelitis, pyelonephritis.
 - (b) Chronic: pyelonephritis, nephrosis,
 - (c) Specific: tuberculosis.
6. Nephritis.
7. Parasitic diseases as filaria.
8. Tumours: capsular, parenchymal, pelvic.
9. Drugs: turpentine, phenol, cantharides, methanamine, salicylates, sulphonal, barbiturates, organic acids as mandelic, sulfanilamide and other derivatives.
10. Local vascular changes.
11. Unknown origin.

B. Ureteric causes.

1. Trauma.
2. Calculi.
3. Infection, ureteritis cystica, stricture.
4. Tumours.

C. Vesical causes.

1. Malformation.
2. Trauma.
3. Calculus or foreign body.
4. Infections, including prostatic or urachal.
5. Parasitic as bilharzia.
6. Tumours.
7. Epithelial changes as leucoplakia.

D. Prostatic Causes.

1. Benign enlargement.
2. Malignant prostate.

E. Urethral Causes.

1. Malformations.
2. Injuries.
3. Calculus or foreign body.

4. Infections

- (a) Acute urethritis, chancre, chancroid.
- (b) Chronic urethritis, stricture.

5. Tumour.

6. Nevus.

II. Haematuria in general diseases.

- A. Acute fevers especially in the severe forms, malaria, acute articular fever, scarlet fever, tonsillitis, etc.

B. Chronic infections.

- Endocarditis (renal infarction)
- Arteriosclerosis.
- Purpura
- Syphilis.

C. Diseases of unknown etiology.

- Hodgkin's
- Leukemias
- Periarteritis nodosa.

D. Vitamin deficiencies.

- Scurvy
- Liver deficiencies.

E. Inborn anomalies.

- Haemophilia.

III. From disease invading the urinary tract:

- Acute appendicitis
- Acute or chronic salpingitis.
- Acute or chronic diverticulitis of the colon.
- Intestinal or female genital tuberculosis.
- Abdominal or pelvic tumours.
- Extra renal or extra ureteric tumours.
- Perforations of gastric or duodenal ulcers.
- Perforations of aneurysms.
- Perforations from osteomyelitis.

The relative incidence of causes of haematuria in one series is as follows:

- (1) 39%—due to kidney causes—Tuberculosis—Stone—Pyelitis—Malignant Tumours—Nephritis.
- (2) 37%—Bladder—Tumour bladder—Calculi—Tuberculous cystitis.
- (4) 15%—Prostate—90% Benign enlargement.
- (4) 1%—General causes.

By and large the common causes of haematuria are tumour, calculi, tuberculosis, non-tuberculous infections and nephritis in the order of incidence.

DIAGNOSIS.

Diagnosis can be arrived at fairly accurately by eliciting carefully the clinical history, physical examination and by adopting special methods of examinations.

(1) Clinical History:

In infants and children, usually haematuria is due to impacted stone in the urinary meatus, acute nephritis, rarely embryoma; in old persons, enlarged prostate; in the middle aged, calculus and neoplasm. In the adult with pyuria, fever and anaemia, one thinks of tuberculosis.

History of accident may suggest injury to the kidney or bladder secondary to a pelvic fracture. Previous history of passage of stone may suggest calculus disease to be the cause of haematuria. Renal colic may suggest that the cause is in the kidney or ureter. If haematuria is associated with sudden stoppage of urinary stream with pain referred to the tip of the penis, this may indicate a stone in the urinary bladder. A dull ache in the loin between the

12th rib and the erector spinae muscle, associated with haematuria may be due to renal tumour. When associated with radiation of pain from loin to groin, it may be due to ureteric stone or clot colic as a result of bleeding from the kidney due to causes like tumour, tubercle or stone. Pain in the suprapubic region, with urgency, frequency and haematuria suggests cystitis or malignant papilloma of the bladder.

When haematuria is initial (blood appears before urine), the cause is in the anterior urethra or prostate. When it is terminal (when appearing at the end of micturition), generally it is due to causes in the base of the bladder. When it is total (urine is well mixed with blood), then the cause is either renal or vesical.

The nature of the blood clot is also suggestive—when worm like, it may indicate that bleeding is from the kidney or ureter; when in the form of plaques or discs, it indicates that the cause may be renal or vesical.

Sometimes tumour fragments can be seen in the urine and a detailed examination of these may indicate the site and nature of haematuria.

2. Physical Examination:

If there is bilateral nodular enlargement of the kidneys associated with hypertension, the cause may be polycystic kidneys. When the kidney swelling is unilateral with painless profuse haematuria with recent development of varicocele on the left side, this is suggestive of hypernephroma. Moderate enlargement of the kidney which is tender and associated with fever, toxæmia and frequency of micturition may be due to tuberculosis of the kidney.

Tenderness in the suprapubic region with symptoms of urgency and frequency points towards bladder as the cause of haematuria, which may be due to papilloma of the bladder, tuberculosis or stone in the bladder producing cystitis.

Rectal examination may reveal enlarged prostate or carcinoma of the prostate which may be the causative factor. Palpation of the urethra may show an impacted stone or stricture or signs of local injury. In the female urethra, the bladder base may be palpated through the vagina. Pelvic examination may sometimes reveal an unsuspected carcinoma of the cervix invading the bladder producing haematuria.

A thorough general examination must always be done and this may reveal evidence of bacterial endocarditis, purpura, leukaemia, scurvy, hypertension, etc., which might be causing haematuria.

3. Special Examination:

A. *Urine analysis*: Demonstration of R.B.C. is the positive proof of haematuria. The three glass test gives evidence regarding initial, terminal and total haematuria. Albumin and granular casts suggests chronic nephritis which may be due to hypertension. Acid urine with pus cells may suggest tuberculosis. Alkaline urine and pus cells may suggest cystitis due to stone, etc. Microscopic examination may reveal Micro-filaria, Bilharzia-ova, tumour cells, oxalate crystals, etc. Culture of urine may grow tubercle bacillus.

B. *Plain X-ray*: This may reveal radio opaque stones along the kidney, ureters, and bladder region or calcification of a tuberculous kidney.

C. *I. V. Pyelography*: This may reveal defects of renal pelvis and calyces indicative of hypernephroma, spider deformity of polycystic kidney or irregularity and dilatation of calyces indicative of early tuberculous lesions. The bladder picture may reveal filling defects caused by papilloma, or carcinoma, diverticulum of the bladder may be seen and also the filling defect at the base caused by an enlarged median lobe of the prostate.

D. *Cystoscopy and Retrograde Pyelography*: This is the most important of the special methods. Through the cystoscope one can see the tumours of the bladder, appearance of tuberculous cystitis, stones in the bladder, or at the ureteric orifice. One can also lateralise the bleeding from the right or left kidney. Retrograde catheters could be passed and better definition of pelvis and calyces could be obtained.

E. *Urethroscopy*: Anterior urethra can be visualised and the nature of the stricture, presence of tumours like angioma, early carcinoma, etc. can be seen.

F. *Renal Angiography and perirenal insufflation of air*: This procedure may help in differentiating some rare tumours of the kidney from that of the supra renal gland.

As already mentioned, the cause and site of bleeding can be found in a large majority of cases. But there remains a small group where no cause could be detected and this goes by the name of "ESSENTIAL RENAL HAEMATURIA". Probably, this is due to an angioma of the renal pelvis or due to a patch of interstitial nephritis.

Treatment :

Treatment, as elsewhere, depends on the cause. However, when the patient comes with exsanguinating haemorrhage, he must be given blood transfusion, calcium gluconate, Vit K and C, haemostatic serum, etc., to control and replace the loss of blood. Where there are clots in the bladder, bladder wash outs with warm silver nitrate solution may be helpful. Sometimes one may have to do a suprapubic cystotomy to remove big clots and stop haemorrhage from the bladder.

Regarding the haematuria due to congenital causes, it is reported that it occurs in about 7% of cases of malformation. Polycystic disease of the kidneys tops the list. Treatment of this condition is rather unsatisfactory and a Rovsing operation could be done.

Haematuria occurs in almost all cases of injury to the urinary tract. This may be mild, moderate or severe in degree. I. V. Pyelogram is of help. Where the bleeding from the kidney is mild, conservative treatment is given. Where it is severe, provided the other kidney is normal, nephrectomy is done. Bladder injuries are generally associated with fracture of the pelvis and there may be extra peritoneal or intra peritoneal rupture. This requires appropriate treatment. Injuries of the urethra may be: Contusions, partial or complete and symptoms are treated by the usual standard methods.

Haematuria occurs in about 13% of of calculus patients. But microscopic haematuria occurs in about 90% of these cases. This is treated by

the removal of calculi where ever they are. Recurrent calculi may raise the suspicion of parathyroid tumour. Haematuria due to infective causes must be treated by proper antibiotics. Renal tuberculosis is lessening in numbers and when diagnosed must be treated by sanatorium regimen, anti-tuberculosis drugs and surgery in advanced cases. Filarial infection occasionally gives rise to haematuria with chyluria and may be treated by Hertrazan tablets and general measures.

40% of cases of haematuria are due to neoplasm. The tumours of the kidney like hyperphroma and embryoma are treated by nephrectomy. Radio therapy has a place in the pre and post operative treatment of embryoma. Haematuria due to papilloma of bladder is treated by endoscopic fulgration, malignant papilloma by partial cystectomy and radon implant or total cystectomy followed by deep x-ray therapy in more advanced cases.

Prostatic lesions are treated by prostatectomy preferably by Millens method and in the old and poor risk patients by trans-urethral endoscopic resection.

Urethral conditions are treated by dilatation in cases of stricture, removal of the stone, fulgration of naevus or amputation of penis for carcinoma.

The Essential Renal Haematuria is generally treated by general measures for haemostasis, and replacement of blood, where it is severe. Exploration of the kidney has been recommended by some surgeons.

ABSTRACTS AND EXCERPTS**IMMUNIZATION PROGRAMME IN INDIA :**

About 13.5% of India's 408 million inhabitants are infants and children of four years and under, and about 25% are between the ages of five and 15 years. In these age groups, diphtheria, whooping-cough and tetanus cause widespread morbidity and mortality. For instance, diphtheria is responsible for between 2000 and 5000 admissions every year to hospitals in cities such as Calcutta and Bombay, and no fewer than 84% of the cases are children between two and ten years of age, whilst 11% are infants.

In 1959, the twelfth session of the WHO Regional Committee for South East Asia recommended the routine vaccination of children against all three diseases. The major obstacle to this course in India has hitherto been the difficulty of obtaining the necessary vaccines; local production is inadequate and the cost of importing them is prohibitive. It has therefore been decided to expand their local manufacture, with help from WHO and UNICEF, as a preliminary to a countrywide immunization campaign.

A pilot unit for the production of the vaccines is to be set up at the Central Research Institute, Kasauli. Here the vaccines will be manufactured in accordance with WHO - recommended procedures, and a WHO consultant is to be assigned to the project. Equipment, apart from that already available in the country, will be supplied by UNICEF. Two workers from the Kasauli Institute are at present in Australia studying vaccine production and immunology. It is expected that the Institute will be able to produce 4 million millilitres of vaccine a year to begin with, and to reach the target of 7 million millilitres a year within three years.

(*World Health News - A WHO News Bulletin*)

* * * *

TREATMENT OF CORNS, CALLOSITIES AND VERRUCAE :

A 'SIMPLE dry salicylic acid powder dressing' is a 'safe, painless, very effective, inexpensive' method of treating corns, callosities and verrucae, according to W. A. H. Wabha (Alexandria Medical Journal, May, 1960, 6,270). The one precaution is that the surrounding healthy skin must be protected from the powder. To achieve this, it is recommended that a piece of adhesive plaster tape (A. P. T.) be cut, sufficient to cover the lesion (L) and 1 cm. of the surrounding skin. A hole is then cut in the centre of this, slightly bigger than the size of the lesion, and is then fixed to the skin in such a way that it encircles the lesion completely, leaving the lesion itself exposed. The lesion is then covered with dry salicylic acid powder, and with a large piece of adhesive plaster-tape the lesion, the surrounding adhesive plaster and an area of 1 cm. of the skin around it are covered over.

Verrucae plantaris and verrucae plana of 2 to 3 mm. in diameter require one dressing for forty-eight hours. One dressing for forty-eight hours is usually also sufficient for verrucae plantaris not exceeding 5 mm. in diameter, though a better result is sometimes obtained if it is left on for seventy two hours. Larger, deeply embedded verrucae plantaris may require two or three dressings, each for forty eight hours. For corns of ordinary size one or two dressings are needed, but in sensitive patients these may need to be changed every twenty-four hours instead of forty-eight hours. It is said that a properly applied dressing for forty-eight hours or better for seventy-two hours is usually sufficient to get rid of a callosity upto 2 cm. in diameter. The results claimed within a few days of treatment are: 100 % cure in 70 patients with verruca plantaris, 97 % cure in 37 patients with verruca vulgaris, 100 % cure in eight patients with verruca plana, 97.8 % cure in 80 patients with corns, and 100 % cure in 22 patients with callosities. There is said to be no contraindication except the presence of inflammation.

(*Practitioner* - Vol. 185, page 376, 1960)

VIRAL CONJUNCTIVITIS:

Clinically, primary herpetic infection in the eye is comparable to the more common acute stomatitis, and may be associated with vesicular eruptions on the face. Once acquired, the infection tends to relapse, or reinfections may occur. Follicle formation is not uncommon, and the herpes virus is said to be the most common cause of follicular conjunctivitis in London. The herpes virus is resistant to all antibiotics and a warning is given against indiscriminate use of topical steroids, with or without a broad-spectrum antibiotic. This ill-advised method of treatment, it is stated, 'converts the commonest ocular infection in this country from a visitation which is usually relatively harmless into one leaving potentially permanent ill-effects'.

(*Practitioner* - Vol. 185, page 374, 1960)

LEPROSY IN INDONESIA:

Dr. S. Reed from Bali, Indonesia writes in the *B. M. J.* December 3, 1960 (P. 1673)

" Here in Bali the contrast between the pre-and post-dapsone patients is most striking. All the former (300 of them) have now been gathered up to live in 6 leprosaria by the sea, clothed and fed by the government. Practically all of them have revolting and pathetic mutilations. In marked comparison are the 2,000 out-patients who are making dramatic progress under dapsone. This they receive regularly at a set time and place every two weeks at one of 90 different places throughout the island; not only is ugly infiltration receding, but to all intents and purposes the development

of contractures and mutilations is a thing of the past. Moreover, and this is of vital importance, almost 100% are still fully accepted members of the community: not one has been hounded out of his normal occupation. Within the last two years, patients have been allowed to join in the communal rice gathering, for example, and carpenters are flooded with orders of work. A further objective proof of the efficacy of dapsone is that also within the same period, 500 of our present patients have presented themselves voluntarily for treatment, and the great majority of these are in the earliest stages, and this because Bali has seen with its own eyes during the previous two years the results of dapsone".

EPIDEMIOLOGY OF CANCER OF THE CERVIX:

J. A. M. A. December 3, 1960. Page 1852. Editorial.

Studies in Israel and of Jewish women in the United States show exceedingly low rates of cervical cancer. Surveys revealed no outstanding difference between Jewish and non-Jewish women to account for this fact except circumcision. Similarly, studies in India showed that only circumcision, as practised by Moslems, can account for their lower incidence of cervical cancer as compared with Hindus. To this evidence is added the fact that penile cancer is exceedingly rare among males circumcised in boyhood and that the relative incidence of penile cancer parallels that of cervical cancer among different population groups. Furthermore, studies in this country and India have indicated that groups with the highest rate of cervical cancer have relatively the poorest penile hygiene among their male populations. In addition, human smegma has been shown to be carcinogenic to mouse cervix.

The epidemiological pattern of the disease, together with the most reasonable interpretation of data available, suggests that with general circumcision the incidence of cervical cancer among the general population would parallel that of Jewish women. Though good penile hygiene could achieve the same end, infant circumcision, especially among the lower income groups, could accomplish this in a more practical and thorough fashion. Of course for mature males education leading to improved penile hygiene will have to suffice.

BRITAIN'S HEALTH IN 1959:

Infant mortality rate: 22.2/1000 live births	} Both lower than ever before.
Maternal mortality rate: 0.32/1000 births	
No death due to diphtheria.	
Deaths from motor vehicle accidents: 6026 (600 more than in 1958).	} Greater than previous years.
In males between 15 and 24 years, 41% were the result of road accidents.	
Total deaths from cancers: 97,117	
Deaths from lung cancer: 21,063	}
Coronary heart disease deaths: 84,922	

(*British Medical Journal* — Nov. 19, 1960)

ALLERGIC REACTIONS TO ANTITETANUS SERUM:

Toogood, J. H., Canadian Med. Ass. J. 1960, Apr. 30, v. 82, No. 18,907-12(14 refs).

The author discusses the incidence in Canada of the disease he calls anti-tetanus serum allergy. He estimates that 7,900 severe cases occur annually and that approximately 31,500 working days are lost owing to the disease. Mortality is difficult to assess as deaths may not be certified as due to ATS allergy. He gives details of the deaths of 2 patients: in 1, death followed 10 minutes after an intradermal test in an asthmatic patient; in the other, the death occurred from haemorrhagic encephalitis 13 days after the administration of 1,500 units ATS which had been given after a negative scratch test. The author states that the dilution usually recommended for test doses are dangerous and the dilution usually of at least 1 in 1,000,000 is necessary. The whole practice of ATS prophylaxis is unsound and should be replaced by active immunization.

(Bull. Hygiene).

EDITORIAL ANNOUNCEMENT

Indian Council of Medical Research — Col. Amir Chand Trust Fund Prizes.

Announcement in "The Madras Clinical Journal" — Vol. XXVII No. 8 February, 1961.

Intending candidates who are members of any of the constituent units of the Madras State Branch of the I. M. A., are requested to forward their papers on or before 1st August, 1961 to the Honorary Secretary, Indian Medical Association, Madras State Branch, 11/56, Thiruvankataswami Road, R. S. Puram, Coimbatore-2 for onward transmission to the Director, Indian Council of Medical Research, New Delhi, through the Director of Medical Services, Madras.

MANAGING EDITOR.

ASSOCIATION NOTES**BRANCH NOTES****Coimbatore Branch:**

1. A monthly meeting was held on Saturday, the 4th February, 1961, at 6-00 p. m. in the Association premises.

Dr. Jayakumar, M. D., M. R. C. P. (Edin.), Madurai Medical College, gave a very interesting and elaborate lecture on "Changing Concepts of Medicine".

2. A monthly meeting was held on Saturday, the 25th February, 1961, at 5-30 p. m. in the Association premises.

Dr. C. R. Subramaniam, B. Sc., M. B., B. S., F. R. C. S., F. R. F. P. S., Coimbatore, delivered a lecture on "Selective Gastric Surgery for Duodenal Ulcer Patients and the Problem of Recurrent Ulceration".

Madura Branch:

A monthly meeting was held on 21st January, 1961, under the Presidentship of Dr. K. Ramachandran, M. S., Madurai. Condolence resolutions were passed on the demise of Dr. M. N. Venkataraman, L. M. P., and Dr. B. R. Venkatasubramaniam, L. M. P. Dr. G. Venkataswamy, B. A., M. B., B. S., M. S., D. O., Professor of Ophthalmology, Madurai Medical College & Ophthalmic Surgeon, Erskine Hospital, Madurai, gave an interesting lecture on "Eye Examination in General Diseases" and demonstrated a few fundus slides.

Nagapattinam Branch:

A clinical meeting was held on 18-2-1961 at the T. B. Association buildings, when Dr. A. Thiagarajan, M. B., B. S., retired D. M. O., presided and Dr. N. Srinivasan, B. Sc., M. B., B. S., spoke on the "Infections of the Hand" with special reference to workers in the mills.

Pudukkottai Branch:

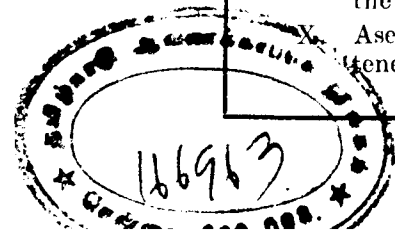
A combined meeting of the Chettinad and Pudukkottai branches of the Indian Medical Association was held at the Town General Hospital, Pudukkottai, at 4 p. m. on 26-2-1961. Dr. V. Sreenivasan, M. R. C. P., D. T. M. & H. (Edin.), gave a talk on "Myocardial Infarction". Dr. Govindarajan, M. A., M. B., B. S., D. O., then presented a case of rhinosporidium and discussed the various clinical aspects and treatment of the condition. Dr. Subramaniam, M. B., B. S., of Town General Hospital, showed the aerated specimen of a cystic kidney. The case was shown to the members at the previous meeting.

Trichy Branch:

A monthly meeting was held on Saturday, the 18th February, 1961, in the Association premises. Dr. K. Vasudevan, M. S., Civil Asst. Surgeon, Government Head-Quarters Hospital, Trichy talked on "Appendicitis in Children". Then Dr. R. Ganesan, M. B., B. S., Hon. Asst. Medical Officer, Government Head-Quarters Hospital, Trichy talked on "Sorakkai Ammai in Paediatrics".

THE TEN COMMANDMENTS OF THE SURGEON

- I. Silence adds to the dignity of an operation theatre; it is like silence observed in homage to the patient who has voluntarily placed his life into the hands of the surgeon.
 - II. An operation should always be a conscious act in the course of which security is the primary consideration.
 - III. A too fast operative technique may incur as many risks as a too slow one; regulate the range of swiftness so as to ensure the greatest efficiency.
 - IV. Boldness coupled with cautiousness widens the horizons of success.
 - V. It requires no less courage to take a quick decision about an intervention than to postpone a decision on this score.
 - VI. The operative technique is now considerably devoid of risks as far as the patient is concerned. The risks inherent to the patient should, however, be eliminated by means of adequate pre-operative care and suitable anesthetic measures.
 - VII. Keep a surveillance over the operative sequelae with as much attention as called in pre-operative care and the operatory procedure itself.
 - VIII. Please bear in mind that though a medical practitioner is not necessarily a surgeon, the surgeon should be as competent as the medical practitioner in the field of Medicine. There is an enormous difference between a surgical act carried out scientifically and mere manual skill.
 - IX. Surgical practice should be concerned not only with the surgical act itself and the improvement of the patient, but with the clinical history of the case as well, interpreted in the lights of pathological anatomy and other data.
- Asepsis, precision, gentleness and skill are the cardinal tenets of surgery.



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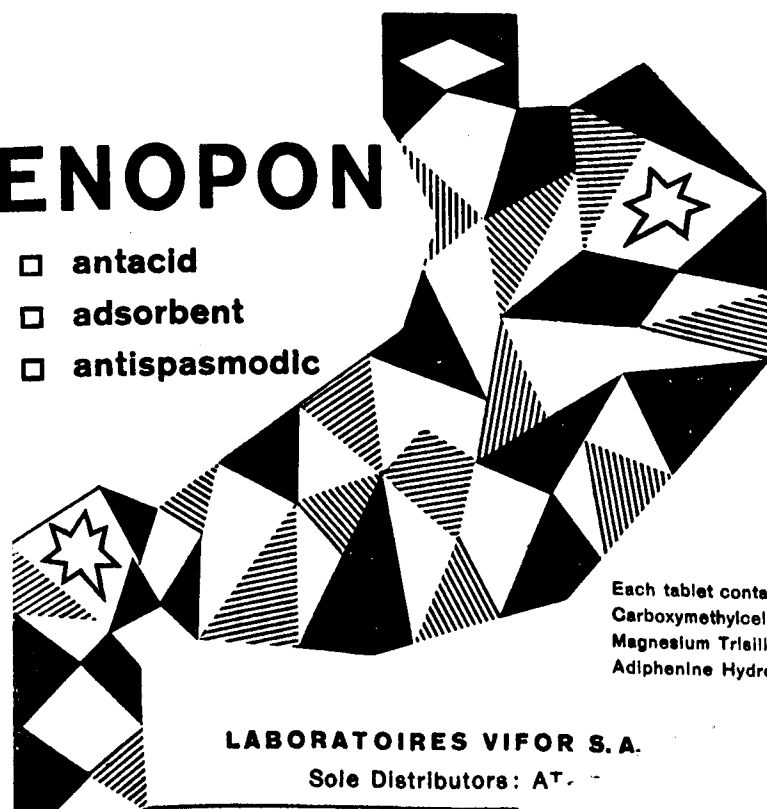
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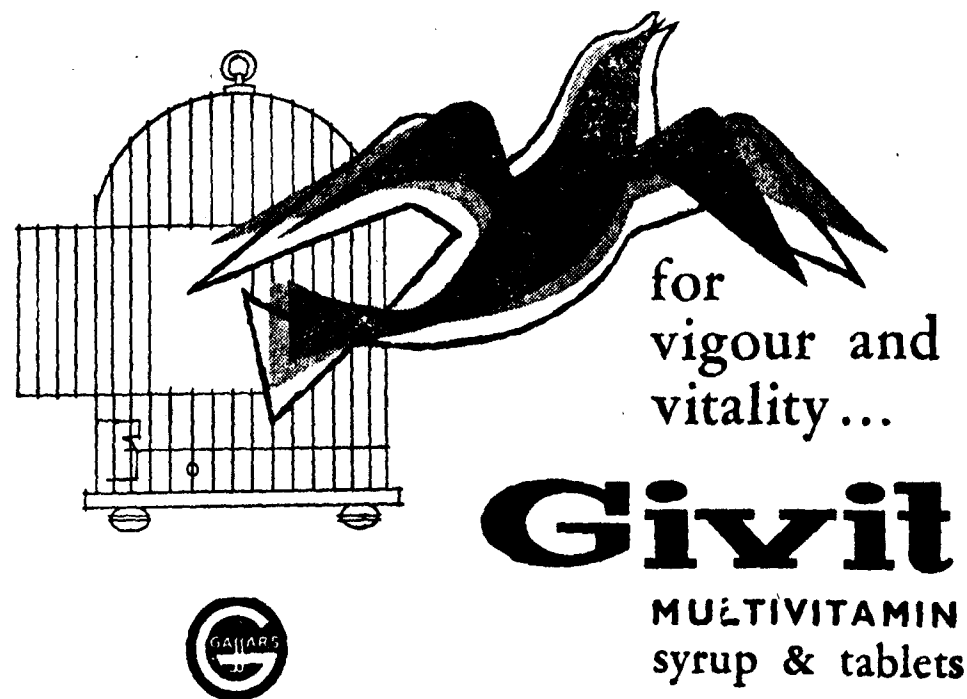
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EDITORIAL ANNOUNCEMENT

The editors are always willing to consider for publication in this journal articles of value to medical practitioners in all branches of practice and to medical students.

Manuscripts should be submitted in a completely faultless condition, very carefully revised, and ready in all respects for the printers. Photographs and diagrams should be inserted freely with clear instruction as to the setting.

All contributions for publication and correspondence should be sent to the Managing Editor, Madras Clinical Journal, Raja Street, Coimbatore - 1.

Manuscripts for articles, case notes, etc., must be typewritten, double spaced, on one side only of foolscap or quarto paper. Only original type scripts (not carbon copies) will be considered for publication. Graphs, charts, diagram or pen drawing must be drawn in Indian Ink on white drawing paper. Blue or coloured inks cannot be reproduced.

In the selection of paper and in regard to priority of publication, the opinion of the Managing Editor will be final. The Managing Editor shall have the right to edit, condense, alter, re-arrange or re-write approved articles, case notes and other communications before publication, without reference to the authors concerned. The Managing Editor will not be responsible for the views and statements of authors of articles and other communications. Manuscripts not accepted for publication will be returned to the authors if the necessary postage is supplied by the author.

REPRINTS: Ordinarily 25 copies of articles and case notes (not correspondence, etc.,) published shall be supplied, free of charge, to the authors, if a request is made at the time of submission of the manuscripts.

Subject to the above conditions the following are suggestions as to manuscript which this journal is ready to publish:—

- (a) Original articles of authority on any aspect of clinical medicine.
- (b) Reports of new forms of treatment, whether favourable or not. Any branch of therapy is included under treatment.
- (c) Reports of new diagnostic methods, whether useful or not. Here again any diagnostic procedure is meant.
- (d) Personal experiences of illness. The doctor as a patient.
- (e) Unusual presentations. Illustrated case records of one or two cases showing illuminating diagnostic or therapeutic matters.
- (f) Medico-legal experiences. Original letters and histories.
- (g) Hazards of medical practice. Newly discovered pitfalls.
- (h) Rewards of medical practice.