hospital with chest pain due to suspected myocardial infarction were analysed for coproporphyrin concentration by the rapid screening method using the Donath-Douglas coproporphyrinometer. Patients who gave a history of regular heavy alcohol consumption, or who were drunk at the time of admission, were excluded. The coproporphyrin concentration increased with urine alkalinity, but none of the specimens had a pH higher than 7. Thirty-nine of these 50 patients had in fact sustained an acute myocardial infarct according to the electrocardiographic criteria or changes in the ST segment and T wave suggestive of infarction. The increase was accompanied by a significant rise in serum aspartate aminotransferase (S.G.O.T.) levels (>50 Reitman and Frankel units) in four of these 38 (63%) developed an abnormally high urinary coproporphyrin concentration (>100 μg/litre) within three days of admission, which returned to normal within 10 days in all cases. The other 12 patients had angina without evidence of infarct and three of these patients (23%) developed increased coproporphyrinuria. Control urine samples were obtained from 30 patients with illnesses such as peptic ulcer and chronic bronchitis, which are not known to affect coproporphyrin excretion, and all these samples were normal. The results show that this rapid method of measuring coproporphyrinuria was not a reliable means of distinguishing myocardial infarction from angina.

The cause of the increased coproporphyrinuria, or whether the myocardial infarction and ischaemia is obscure. Increased coproporphyrinuria occurs in liver dysfunction and congestive cardiac failure, but there was no correlation with clinical signs of cardiac failure in the present series, and bromosulphalein excretion (5 mg/kg, body weight) was normal in the two patients with the highest levels of coproporphyrinuria. Pyrogenic steroids such as actiethaolone are known to increase porphyrin biosynthesis, and this in turn might increase coproporphyrin excretion. It is possible that adrenal corticosteroids released during "stress" are metabolized to actiethaolone or related compounds, but in these patients there was no consistent quantitative relationship to the severity of chest pain or the degree of pyrexia and the levels of urinary coproporphyrin reached.

Thanks are due to Professor K. W. Donald and the physicians of the Coronary Care Unit of the Royal Infirmary of Edinburgh, for allowing me to study patients in their care.

— I am, etc.,

J. L. BURTON.

University Department of Pathology.
Royal Infirmary of Edinburgh.

REFERENCES


Postnatal Examination

Sir,—In reply to Dr. Ian Capstick’s invitation for comments regarding his recommendations for postnatal examination (8 June, p. 626) I would like to point out one serious omission.

Probably the most important aspect of postnatal examination and particularly pelvic examination is performing a cervical smear. I cite the following figures from Aberdeen:

In 1965, 1,116 smears were performed, 60 of which were malignant.

In 1966 1,043 postnatal smears gave no positive results.

In 1967 1,163 postnatal smears gave a pick-up of 23 atypical and 1 precancer.

I can only presume from Dr. Capstick’s letter that it is possible that antenatal smears may be taken. If so, these remarks are not applicable.—I am, etc.,

WILLIAM Y. SINCLAIR.
Department of Obstetrics and Gynecology, Maternity Hospital, Aberdeen.

Gas Gangrene and Intramuscular Injection

SIR,—In view of the recent report of a case of fatal gas gangrene complicating an intramuscular injection (G. V. Harvey and G. V. Purnell, J. Path. Bact. 195, 388), and the rarity in the literature (23 March, p. 721) I feel justified in reporting a further case.

An 18-year-old woman was referred to me on 26 December 1962 at about 9.30 a.m. complaining of a dull pain in the right thigh. Three days previously she had suffered from a severe attack of right inguinal pain. Her doctor had given her an injection of A.C.T.H. and hypernorm, but the latter drug being injected into the right thigh. Apart from the urticaria the past history was non-contributory. On examination she looked ill and was in obvious pain. The pulse rate was 120 and the temperature 101° F. (38.2° C.). In the right thigh and especially on the lateral aspect there was a large tense diffuse swelling which appeared to be fluctuant. There was a suggestion of underlying crepitation on palpation. An x-ray film of the thigh showed diffused gas bubbles in the intramuscular tissue planes. A diagnosis of gas gangrene was made and 500,000 units of penicillin was given intravenously immediately.

She was taken to the theatre where under general anaesthesia a long vertical incision was made on the lateral aspect of the thigh, extending from the outer aspect of the knee to the anterior superior iliac spine. On incising the deep fascia the muscles bulged with considerable oozing of foul-smelling fluid and small gas bubbles. An extensive excision of necrotic muscle was done. The wound was irrigated with hydrogen peroxide and left unsutured. Three amounts of guaze dressings soaked in hydrogen peroxide were left in situ.

At the end of the operation cardiac arrest occurred. External cardiac massage failed to restore the heart beat. A left thoracotomy was made and the heart found to be fibrillating. After about two minutes of cardiac massage vigorous cardiac contractions returned and the left thoracic cavity was closed. After the operation spontaneous respiration returned but the patient did not recover consciousness.

Two hours later continuous oozing of fresh blood was noticed from the wound in the left thigh and the thoracotomy incision. She was given three units of blood, but because oozing continued she was transferred to the operating theatre. Numerous bleeding points in the thigh wound and on the cut surface of the incised peritoneum were tied with the Donath-Douglas clamps. Numerous bleeding points in the left thigh wound and on the cut surface of the incised peritoneum were tied with the Donath-Douglas clamps. Numerous bleeding points in the left thigh wound and on the cut surface of the incised peritoneum were tied with the Donath-Douglas clamps. Numerous bleeding points in the left thigh wound and on the cut surface of the incised peritoneum were tied with the Donath-Douglas clamps. Numerous bleeding points in the left thigh wound and on the cut surface of the incised peritoneum were tied with the Donath-Douglas clamps.

Microscopic examination of a direct smear from the muscle tissue taken at the time of the operation showed large Gram-positive bacilli. Culture yielded a growth of aerobacter Gram-positive bacilli of the Clostridium group and a scanty growth of anaerobic haemolytic Staphylococcus aureus. Microscopical examination of sections of muscle removed at the operation showed an acute pyogenic infiltrate in the necrotic muscle and innumerable clostridia in all components of the tissue.
The picture was classical of gas gangrene. At necropsy there was extensive retroperitoneal gas which had obviously spread from the thigh. The myocardium was flabby, and the cause of death was cardiac failure owing to an overwhelming gas gangrene infection.

One can only speculate about the origin of the infection. The presence of the Clostridium welchii could have been the patient's own skin, the needle, the syringe, contamination of the hyperdrcic adrenaline or A.C.T.H. According to the practitioner the needle and syringes had been boiled and stored in alcohol. Whatever the source of the infection it is quite likely that the hyperdric adrenaline precipitated the spread of the infection and brought about the death of the patient.—I am, etc., Department of Surgery, University of Witwatersrand, Johannesburg. H. GAYLIS.

Correspondence

Service Doctors' Pay

Sir,—I have followed keenly, but so far in silence, the efforts of the B.M.A. and others in the matter of pay for service doctors during the past two years. I am now constrained to put pen to paper.

It is with deep disappointment that I read the interim report of the Prices and Incomes Board on Service Doctors' pay.1 Disappointment not so much in the award itself, but rather in the thoroughly negative and autocritical manner in which the evidence submitted by the B.M.A. and Defence Council was rejected. The Armed Forces Committee rightly stresses the inability of service doctors to redress grievance by unconstitutional means now widely accepted as normal by society. Surely there can be no one more effectively "over the barrel" than the permanently commissioned doctor, whose ethical integrity is capitalized by morally and intellectually bankrupt politicians.

It must be seen that the armed Forces present limited and ever diminishing professional opportunity to the doctor. No amount of internal reorganization of Forces medical service can fully compensate for this, and adequate remuneration will not entirely sweeten this bitter pill. There are those of us who wish to serve, but many others feel resentment and frustration at the professional and financial cul-de-sac in which they find themselves. These latter should be released from contract which the Government has invalidated by its repeatedly broken word. A basic principle to be upheld is the right to start a new career without the stigma that resignation implies, the savage loss of accumulative advantages, the possibility of gratuity repayment, and an enforced wait for two years. Perhaps such voluntary retirement would go some way to reshaping the structure of the medical service we seek, or is there a fear lurking at the back of the Defence Council mind that such a scheme would see a mass exodus of Service doctors? If this indeed be the case no further comment on the conditions and terms of service of doctors in the armed Forces need be made.

However, more fundamental issues are at stake than those discussed. Pay is but one aspect of the financial panoply which at present threatens the very existence of British medicine, and one can see what an effect a national distension of the next decade unless advice offered by our profession is heeded by those whose power it is to remedy the situation.—I am, etc., Jybridge, Devon.

D. B. WATKIN.

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Points from Letters

Patients on Holiday

Dr N. P. Bickers (Sale of Wight) writes: May I support Dr. P. C. Matthew's plea (15 June, p. 694) for written evidence from the home doctor that a patient on holiday is genuinely prescribed a psychotropic drug at home? May I add that the home doctor should put the date and amount of the last prescription, and the temporary doctor either add the date and amount of the new prescription or keep the letter, whichever is appropriate?

Dr S. H. BARKER (Medical Director, Bristol Laboratory Ltd, Midsxf.) writes: In the section on tetracyclines in Today's Drugs (8 June, p. 607) reference is made to pyrrolidinomethyl tetracyclines. Your readers may like to know that this drug is available in Britain only under the trade name of Tetrax P.M.T. (Rothemarche nitrate).