

graphy). Indeed it seems likely that computer tomography will increasingly permit selective percutaneous biopsy of solid abdominal organs.⁹

Laparotomy is not the only way of making a certain pancreatic diagnosis, and is not always the best.

P B COTTON

Middlesex Hospital,
London W1

- ¹ Carlson, R I, *Surgery*, 1950, **28**, 672.
² *British Medical Journal*, 1975, **1**, 353.
³ Doust, B D, *Gastroenterology*, 1976, **70**, 602.
⁴ Cotton, P B, *Gut*, 1972, **13**, 1014.
⁵ Hatfield, A R W, et al, *Gut*, 1976, **17**, 14.
⁶ Meyerburg, J, et al, *Endoscopy*, 1973, **5**, 86.
⁷ Hancke, S, Holm, H H, and Koch, F, *Surgery, Gynecology and Obstetrics*, 1975, **140**, 361.
⁸ Oscarson, J, Stormby, N, and Sundgren, R, *Acta Radiologica*, 1972, **12**, 737.
⁹ Hagga, J R, and Alfridi, R J, *Radiology*, 1976, **118**, 603.

Coeliac disease and diffuse pulmonary disease

SIR,—We read with interest the two case reports of coeliac disease with farmer's lung by Dr T J Robinson (27 March, p 745) and would like to record a similar case of coeliac disease and diffuse pulmonary disease in which tests for avian antibodies were positive and in which a lung biopsy was performed.

A 57-year-old man presented in 1973 with gastrointestinal symptoms. He was diagnosed as having coeliac disease on jejunal biopsy and response to a gluten-free diet.

In 1974 he complained of dyspnoea on moderate exertion. He had no history of exposure to known organic allergens or industrial dusts. On examination he had clubbed fingers, chest expansion of less than 2.5 cm, and scattered rhonchi throughout both lung fields. Pulmonary function studies showed a decreased vital capacity and airways obstruction and the carbon monoxide transfer factor was reduced (see table). His chest x-ray showed small lungs with streaking and honeycombing in both mid and lower zones, more marked on the left side.

His ESR was 35 mm in 1 h. Tests for the following autoantibodies were negative: RA factor, antinuclear factor, LE cells, thyroid (colloid and cytoplasmic), parietal cell, mitochondrial, and smooth muscle. *Mycoplasma parva* and *Aspergillus fumigatus* precipitins were also absent. Immunoglobulin levels were in the normal range. Tests for avian antibodies were positive.

In 1969 he had a clear chest x-ray. Progressive bilateral basilar changes were noted in serial chest x-rays taken annually since then. In view of these findings a provisional diagnosis of progressive cryptogenic fibrosing alveolitis was made.

During thoracotomy for the purpose of making a histological diagnosis a much thickened pleura was found. The surgeon, after consultation, enlarged the incision and proceeded to decorticate the lung. Histological examination of the pleura showed non-specific fibrotic thickening. Lung biopsy showed chronic bronchitic changes. Some lung tissue was deep-frozen for further study and is still available. Pulmonary function studies showed a marked improvement postoperatively (see table).

	Preop	Early postop	One year postop	Predicted values
VC (l)	1.5	2.0	2.2	3.8
FEV ₁ (l)	0.8	1.3	1.2	2.9
PEFR (l/min)	145	230	250	515
D _{LCO} SS (mmol/min/k Pa)	2.4	1.3	3.3	4.6

Conversion: SI to traditional units—D_{LCO}SS: 1 mmol/min/kPa ≈ 3 ml/min/mm Hg.

Lung biopsy was performed on two of the 12 patients reported in the literature with coeliac disease and diffuse pulmonary disease.^{1 2}

Both these patients had positive avian antibodies and the histological features were those of interstitial lung disease with non-caseating granulomas. The patient we report here had as the main pulmonary feature pleural thickening with an excellent response to decortication. We suspect that the occurrence of coeliac disease, diffuse pulmonary disease, and positive avian antibodies may sometimes be a manifestation of disease separate from or additional to extrinsic allergic alveolitis and may therefore require full pulmonary assessment including lung biopsy.

JOSEPH CUMMISKEY
PATRICK KEELAN

Mater Hospital,

D G WEIR

Sir Patrick Dun's Hospital,
Dublin

- ¹ Berrill, W T, et al, *Lancet*, 1975, **2**, 1006.
² Scadding, J G, *British Medical Journal*, 1970, **2**, 557.

Devolution

SIR,—Dr J H Baron (22 May, p 1276) draws attention to greater health service expenditure per head in Scotland than in England.

Different problems may need different solutions—and expenditures. Among other factors, England is some five times as densely populated as Scotland. It may require fewer doctors and less money per head to serve people who live close to each other than to serve those who are more widely dispersed.

DAVID STEVENSON

School of Tropical Medicine,
Liverpool

New enterotoxinogenic bacteria isolated

SIR,—In a study on American children with diarrhoea Gorbach¹ reported a high incidence of enterotoxin-producing *Escherichia coli*. In a recent study from Boston² rotavirus was frequently found in conjunction with diarrhoea, but no enterotoxinogenic *E coli*. In Sweden last summer enterotoxinogenic *E coli* were isolated from both adults and children among a total of 640 patients. The majority of the patients with enterotoxinogenic *E coli* (24/28) had been abroad less than two weeks before the sampling and could thus be classified as having traveller's diarrhoea, including three cases of diarrhoea in adopted children from which toxinogenic *E coli* were isolated.

In a recent study from the Ethio-Swedish paediatric clinic in Addis Ababa 131 (37%) of 354 infants and children with acute gastrointestinal symptoms harboured enterotoxinogenic bacteria as analysed with the rabbit ileal loop test, rabbit skin test, and adrenal cell test. Species identification showed that only 38% of the isolated strains were actually *E coli*, the others belonging to *Klebsiella* (15%), *Enterobacter* (12%), *Citrobacter* (11%), *Aeromonas* (11%), *Proteus* (7%), *Serratia* (2%), and *Pseudomonas* (1%) species. In 18 patients, where two isolates from the same stool sample were toxinogenic, they belonged to different species. It is thus concluded that for future epidemiological studies on the incidence of enterotoxinogenic bacteria in acute diarrhoeal disease both in children and adults testing for toxin should be performed before the isolated strains are classified to the species level. It should also be added that only one of the toxinogenic isolates belonged to a classic

enteropathogenic serotype of *E coli*. As far as we know this is the first report on enterotoxin-producing bacteria in an African community and in northern Europe and it needs to be followed up. It is particularly interesting to compare the many enterotoxin-positive species found in Ethiopia with the data from our Swedish study, in which only two out of 28 strains which were found to produce enterotoxin were not *E coli*. Thus the relative incidence of different species in toxin-induced diarrhoeal disease has to be further studied in different geographical areas and in different age groups. The importance of invasive *E coli* and of new viruses such as rotavirus has also to be taken into account in such studies.

T WADSTRÖM
A AUST KETTIS
D HABTE
J HOLMGREN
G MEEUWISSE
R MÖLLBY
O SÖDERLIND

National Bacteriological Laboratory,
Stockholm

- ¹ Gorbach, S H, and Khurana, C M, *New England Journal of Medicine*, 1972, **287**, 791.
² Echeverria, P, Blacklow, N R, and Smith, D, *Lancet*, 1975, **2**, 1113.

Y-fronts, Panzer-Sass, and the long-distance motorist

SIR,—The Mediterranean beaches still hold their attractions for British holiday-makers, many of whom now drive long distances to get there, and as a result the British practitioner is becoming familiar with the condition aptly known as *Panzer-Sass*, the name given to genitocrural intertrigo by German troops operating in South Russia and the Caucasus during the summer months. The name derives from its high incidence in the crews of tanks and other armoured vehicles. It is not surprising that the driver was particularly vulnerable because of restrictions inevitably imposed on his movements in the overheated, confined space of the tank. The driver of the average British car, which is not air-conditioned, trussed firmly by his seat-belt, finds himself in a similar predicament to the military driver. He perspires freely and sweat soon saturates his undergarments, which, if they are short and tight-fitting (briefs and Y-fronts), begin to chafe the skin of the upper thigh as well as macerating the skin of the genitocrural and natal folds. These pave the way for infection by the commoner pyococci (staphylococci and streptococci) but often candida as well. Submammary intertrigo is more likely than genitocrural intertrigo in the woman motorist because of chafing from a sweat-soaked brassiere, although the genitocrural regions may be involved when "pico-panties" are worn on the journey. Furthermore, most of these patients do not appreciate that bathing in the sea or swimming-pool may make matters worse because of added chafing by the wet bathing apparel, and many have their holiday marred because of this.

Treatment presents little difficulty; bacterial infections respond well to the appropriate antibiotic by mouth and candidiasis soon clears with nystatin, but by this time the holiday may be over. Prevention, in the absence of air-conditioning in the car, demands sensible underclothing for the journey. Loose-fitting boxer-type pants should be worn by the males

(it is significant in this respect that "tank-seat" does not figure in the British soldier's vocabulary). Ladies should dispense with the bra and pico-panties on the journey at least. The attractive "tank-suit" worn by the elegant Italian or a loose-fitting Saharien are ideal for the long, hot summer drive and will preserve both the comfort and appearance of the wearer so that she can enjoy the whole of her holiday without cutaneous mishap.

E J MOYNAHAN

Guy's Hospital,
London SE1

Shoulder-cuff lesions

SIR,—With reference to your leading article (20 March, p 672), for many years now I have been using steroid injections into shoulder lesions, but it was not until I attended a course so ably presented by Dr J H Cyriax that the success of my treatments increased considerably. Using his method to ascertain an accurate diagnosis, I find it is possible to treat most tendinous lesions with great success, and capsulitis can be equally treated if approached at an early stage in the condition.

I think it would be true to say that my consultant colleagues see shoulder lesions only when they are fairly well advanced and established. The success I have obtained over the past three years prompts me to promote the contention that injection therapy should be performed by a general practitioner, who sees the patient at an early stage.

B M G CLARKE

Felixstowe, Suffolk

Tattooing for port-wine stains

SIR,—In dealing with this subject, which was raised in "Any Questions" some time ago,¹ much was written about surgery but extremely little about tattooing, the latter being considered "generally unsatisfactory." Similarly, in two subsequent reviews on "Aspects of Plastic Surgery"^{2,3} only cursory references to this method of treatment were made.

Two years ago I heard that a cousin in Toronto, now aged 76, had been treated by tattooing with a very satisfactory result. His port-wine lesion had been unusually extensive, involving practically the whole right side of the face. After as much plastic surgery as was considered feasible and expedient had been performed there still remained a large area (two-thirds of the original) of deep-purple-coloured skin. On visiting him a few months ago I was astonished at the remarkable change. This had been obtained by an advanced technique developed in Canada.⁴ For the extremely important factor of pigment colour-matching a method has been devised producing clinical results which demonstrate the advantage of electronic equipment in determining the proper pigment mixture for each patient's skin colour. The new mechanical device used in the operation is a high-speed turbine to which is attached a carrier head holding the tattooing needles, the turbine being driven by compressed air.

In the answer to the original question it was suggested that "the best results are often produced, with the least trauma, by a kindly acceptance . . . of some inevitable and permanent disfigurement." The patient referred to above maintains that one *never* learns to live

with it. The least acceptable aspect of this lesion is its intense livid discoloration and, to the observer, it is this feature which makes the patient the object of pity and curiosity, even of aversion and rejection. The life-long experience of this patient bears ample evidence of these social inflictions. Now, virtually free from the discoloration, he feels presentable; to quote him: "I enjoy my new looks every day of the week." This emphasises the complete change in outlook that tattooing has brought about in this case.

In view of the possible attainment of such satisfactory results from surgical tattooing it is difficult to accept that this technique should not be advocated and made available for these lesions.

G P A VAN ROSSUM

Son,
Holland

¹ *British Medical Journal*, 1974, 1, 450.

² Cobbett, J R, *British Medical Journal*, 1974, 2, 718.

³ Morgan, B D G, *British Medical Journal*, 1974, 3, 35.

⁴ Thomson, H G, and Wright, A M, *Plastic and Reconstructive Surgery*, 1971, 48, 113.

New look at malaria

SIR,—Your leading article on this subject (1 May, p 1029) reiterates the simplistic conclusion that "malaria must be defeated if the standards of health and living in the endemic areas are to be raised permanently."

This is the traditional attitude to a killing disease. The question arises whether it can square up to the facts of the new situation resulting from burgeoning population increase and limited food supplies. Most African countries where malaria is endemic have population increasing at well over 2.5% resulting, if unchecked, in a doubling of population in under 30 years. It is really humane to eradicate malaria and leave the population to die of starvation? It would seem to be better for the WHO to concentrate first on intensive aid in population control in these areas. The elimination of malaria and other natural checks on population increase will then be a blessing rather than a bane.

It is all too easy to espouse comfortable and well-established nostrums in medical policies without realising that interference with natural balances has to be fully justified in a world threatened more by man's short-sighted application of his apparent power to do good than by any other single factor.

S L HENDERSON SMITH

Huddersfield

NHS cost of domiciliary oxygen

SIR,—Your leading article on domiciliary oxygen in chronic bronchitis (28 February, p 484) quotes the annual cost of 14 1.35-m³ cylinders per week as £1372. In my view this figure is too low since it takes into account only the cost of the gas.

Under the terms of the Drug Tariff professional fees and transport costs for cylinders would amount to a minimum of £770 and a maximum of £1499—depending on the time and urgency of the deliveries—if the patient lives within three miles of a pharmacy handling oxygen. The costs for delivery to patients living 10 miles or more from the pharmacy will vary between £1737 and £2466. When you add the hire charges for regulator, flowmeter

stand, etc at £10 per year you will see that the total cost to the NHS of supplying 14 "F" size cylinders of oxygen each week to a patient at home will be at least £2152 per annum and may be as high as £3848 per annum. An average cost of £3000 per patient is therefore more realistic.

J R PEATTIE

Area Pharmaceutical Officer,
Kingston and Richmond
Area Health Authority

Kingston upon Thames

Management of threatened abortion

SIR,—Permit me to comment on your leading article (1 May, p 1034). I doubt the existence of "threatened abortion" as an entity. However, fetal wastage is quite a problem. One of the preventable causes is indeed hypothyroidism.

I encountered not long ago the case of a 22-year-old primigravid woman who presented with vaginal bleeding and abdominal pain at 26 weeks' pregnancy. Signs of premature labour were noted. The patient was rather lethargic and showed signs of hypothyroidism. She gave a history of congenital hypothyroidism being diagnosed at the age of 18 months. Thyroid extract had been prescribed continuously since that time but she admitted to not taking the tablets regularly. Thyroid function tests showed hypofunction, and replacement therapy was started. The condition improved and premature labour was averted. Normal "thyroid test profile" for pregnancy was maintained on 0.3 mg of L-thyroxine daily. Eventually this patient was delivered of a healthy infant near term.

Despite the well-documented link between hypothyroidism or hypothyroxinaemia and fetal wastage^{1,2} it is still unclear whether thyroid replacement would prevent fetal loss or not. The case mentioned indicates that it might do so. The suggestion of Winikoff and Malinek³ of "thyroid test profile" is quite a valid one. Since thyroid replacement does not inflict real harm on the unborn infant it is wiser to start the supplement therapy despite the doubts regarding its therapeutic value.

D H DARWISH

Department of Obstetrics and
Gynaecology,
University of Liverpool

¹ Jones, W S, and Man, E B, *American Journal of Obstetrics and Gynecology*, 1969, 104, 909.

² Winikoff, D, Dickinson, R D, and Wade, G, *Journal of Obstetrics and Gynaecology of the British Empire*, 1960, 67, 56.

³ Winikoff, D, and Malinek, M, *British Journal of Obstetrics and Gynaecology*, 1975, 82, 760.

Myringitis bullosa

SIR,—In otitis media surely the general practitioner comes into his own, seeing as he does the entire spectrum of cases, not the red end only which reaches the consultant. In his otherwise comprehensive article (21 February, p 443) and in his letter (3 April, p 836) Mr J F Birrell makes some statements which are true for a consultant but not for a GP. This has been pointed out by Dr V W M Drury (13 March, p 648), Dr E O Evans (13 March, p 653), and Dr S J Carne (24 April, p 1018), but further amplification seems needed on the subject of that common (in general practice) complaint, myringitis bullosa.