

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.

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- 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.

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- 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.

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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.

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- 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