

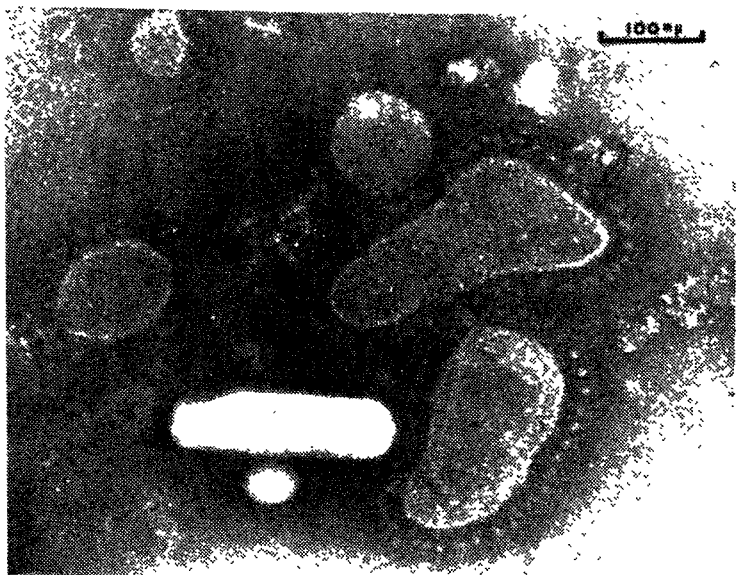
this objective standard, we have been surprised to find how misleading subjective visual assessment of the scintiscan appearance of the sacroiliac region can be.

Clinical Sciences Building,  
University of Alberta,  
Edmonton,  
Alberta T6G 2G3, Canada.

J. S. PERCY  
A. S. RUSSELL  
B. C. LENTLE.

### CORONAVIRUS PARTICLES IN FÆCES FROM PATIENTS WITH GASTROENTERITIS

SIR,—In an explosive outbreak of gastroenteritis in 23 of 500 Service apprentices aged 16 to 20 years, specimens of fæces from 9 patients were examined by electron microscopy. Typical coronavirus particles were seen in the fæces of 2 of the patients, in 1 in very large numbers (see accompanying figure). Coronavirus-like particles



Coronavirus particles in fæces.

without the characteristic petals were seen in a further 4 patients. No particles were seen in fæces from the remaining 3 patients.

Most of the patients had vomited, about half had had diarrhoea, and a few had fever or injected throats. All recovered rapidly, often within a few hours.

Since coronaviruses cause gastroenteritis in pigs (T.G.E. virus)<sup>1</sup> and calves,<sup>2</sup> it is not unlikely that some cases of human gastroenteritis should be due to viruses of this family. It seems probable, because of the very large number of coronavirus particles seen in 1 patient, that they were the cause of this outbreak, although this relationship cannot be proved at this stage. Similar particles have not been seen on examination of fæces from other patients with diarrhoea. Further work with this virus is in progress.

Public Health Laboratory,  
Myrtle Road, Kingsdown,  
Bristol BS2 8EL.

E. O. CAUL  
W. K. PAVER  
S. K. R. CLARKE.

### DUOVIRUS IN NEW ZEALAND

SIR,—Davidson et al.<sup>3</sup> reviewed the evidence for a new virus being an important aetiological agent in children with acute enteritis. They stated that this virus had been identified in Australia, the United Kingdom, Canada, Singapore, Rhodesia, India, Norway, territory of Papua/New Guinea, Malaysia, in widely separated Australian aborigine communities, and in the U.S.A.

1. Ferris, D. H. *Adv. vet. Sci.* 1973, 17, 57.
2. Mebus, C. A., Stair, E. L., Rhodes, M. B., Twiehaus, M. J. *Am. J. vet. Res.* 1973, 34, 145.
3. Davidson, G. P., Bishop, R. F., Townley, R. R. W., Holmes, I. H., Ruck, B. J. *Lancet*, Feb. 1, 1975, p. 242.

New Zealand can now be added to the list. Recently, fæcal samples from three children admitted to Wakari Hospital (Dunedin) with acute enteritis were airmailed to Melbourne for examination. Two of these contained virus particles identical to those reported from the countries listed above.

I am indebted to Dr Ruth Bishop and her colleagues for undertaking examination of these samples.

Department of Pædiatrics and  
Child Health,  
University of Otago Medical  
School, Box 913,  
Dunedin, New Zealand.

GRAEME BARNES.

### CLINICAL SIGNIFICANCE OF HB<sub>s</sub>Ag SUBTYPES D AND Y IN ACUTE VIRAL HEPATITIS B

SIR,—The clinical significance of the hepatitis-B surface antigen (HB<sub>s</sub>Ag) subtypes D and Y in HB<sub>s</sub>Ag positive liver diseases is still unknown. Different subtype distribution in patients with acute and chronic liver diseases and healthy carriers has been demonstrated by several authors, and it was concluded that the HB<sub>s</sub>Ag subtypes D and Y are of clinical significance. If the clinical course of an HB<sub>s</sub>Ag-positive acute viral hepatitis is determined by the HB<sub>s</sub>Ag subtype, clinical differences in the two forms of hepatitis B should be expected.

Laboratory data in 29 cases (15 men, 14 women; mean age 36.5 ± 15.0 years) of acute viral hepatitis B of subtype D were compared with 38 cases (17 men, 21 women; mean age 30.0 ± 14.0 years) of subtype Y. Subtyping was performed by a radioimmunoassay using antibody of the specificity anti-a, anti-d, and anti-y. For statistical analysis U-test and  $\chi^2$ -test were performed.

No differences were found in prothrombin-time, serum-glutamic-oxaloacetic transaminase, serum-glutamic-pyruvic transaminase, bilirubin, alkaline phosphatase, total protein, alpha-1, alpha-2, beta, and gammaglobulins, or in immunoglobulins IgG, IgA, and IgM measured at the beginning, during, and at discharge from hospital. HB<sub>s</sub> antigenaemia and length of stay in hospital were equal in both groups.

These findings support the hypothesis that the subtypes D and Y in acute HB<sub>s</sub>Ag-positive viral hepatitis have no significance for the clinical course of the disease.

Department of Gastroenterology,  
Heidelberg University Hospital  
and I.B.M. Heidelberg Scientific  
Center,  
Heidelberg, West Germany.

G. THAMER  
B. KOMMERELL  
P. LINHART  
R. SANWALD  
R. ERBE.

### HB<sub>s</sub>Ag SUBTYPES IN GLOMERULONEPHRITIS

SIR,—In 71 cases of glomerulonephritis with immune deposits, Conté and Fournié<sup>1</sup> found no traces of HB<sub>s</sub>Ag in the serum but found it in 31% of renal-biopsy samples. However, in 161 patients with glomerulonephritis with immune deposits we found HB<sub>s</sub>Ag in the serum in 6.8% cases, compared with 0.54% in other forms of primitive glomerulonephritis and in normal subjects<sup>2</sup>; that percentage proved to be even higher when we used the radioimmunoassay as well as counterimmuno-electrophoresis. The results lately given by Pedreira and his colleagues<sup>3</sup> are similar to ours: of 105 patients with chronic glomerulo-

1. Conté, J. J., Fournié, G. J. *Nouv. Presse méd.* 1974, 6, 429.
2. Lagrue, G., Etievant, M. F., Sylvestre, R., Hirbec, G. *ibid.* 1974, 3, 1870.
3. Pedreira, J., Guardia, J., Vilardell, M., Caraps, A., Martinez-Vasquez, J. M., Hernandez, J. M., Bacardi, R. *Lancet*, 1974, ii, 1513.