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although with improvement in instrumentation this may eventually become of less importance. It is unlikely that lesions less than 1 cm. in size would be recognised by ultrasound examination, owing to limitations imposed by lateral resolution. Examination of the fetal spine can be time-consuming, and routine screening of the whole obstetric population to detect the 90% of lesions that are first-time occurrences is not at present feasible.

We thank Prof. P. E. Polani, F.R.S., for his continuing interest in this work and Mr Ian Craft for his management of these cases in Chelsea Hospital for Women.

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Preliminary Communication

PLEOMORPHIC VIRUS-LIKE PARTICLES IN HUMAN FÆCES

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Summary Pleomorphic fringed particles bearing some resemblance to orthomyxoviruses and coronaviruses were seen in 90% of stools from south Indian children and adults but not in stools from neonates. This finding may be related to the abnormalities of intestinal structure and function common in this region of India.

INTRODUCTION

Detection by electron microscopy of viruses, morphologically similar to reoviruses, in the stools from a large proportion of infants and children with non-bacterial gastroenteritis has been reported in several countries. Evidence suggests that these viruses are an important cause of gastroenteritis. Flewett et al. reported finding various isometric viral particles in the stools of children and adults with and without diarrhoea. Using similar techniques to study stool specimens in India, we found that many contained previously undescribed ultramicroscopic pleomorphic virus-like particles.

METHODS

Freshly passed faeces was transported to the laboratory on ice and stored at −70°C till examination. An approximately 20% suspension (w/v) of stool in water was made using a mechanical blender. This suspension was centrifuged at 10,000 g for thirty minutes at 4°C. The supernatant was passed through a filter with a pore size of 5. Leek, A. E., Chard, T. in Proceedings of the International Conference on Alpha-Feto-Protein (edited by R. Masseyeff); p. 563. Nice, 1974.

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1200 nm. 5 mL of the filtrate was centrifuged at 25,000 g for ninety minutes. The supernatant was discarded and the pellet was resuspended in one or two drops of distilled

(b) Kidney-shaped particle with double-layered fringe with a T-shaped projection attached peripherally.

(c) Particle with double-layered fringe with a second knob-shaped projection attached peripherally.

(d) Large, irregular, elongated particle with fringe apparently identical with that of particle (b).
The electron microscope facilities; Prof. I. H. Holmes for helping us establish the techniques used in this study; and Dr June Almeida, Dr D. A. J. Tyrrell, F.R.S., and Dr D. Taylor-Robinson for their help and advice.

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Hypothesis

PATHOGENESIS OF NONKETOTIC HYPEROSMOLAR DIABETIC COMA

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Summary
Two concepts are advanced to explain some of the puzzling biochemical features found in nonketotic hyperosmolar diabetic coma. It is firstly suggested that an insulinised liver (reflecting residual beta-cell secretory activity) coexists with a diabetic periphery, thereby inactivating intrahepatic oxidation of incoming free fatty acids, which are directed largely along nonketogenic metabolic pathways such as triglyceride synthesis. This could account for the lack of hyperketonemia. Secondly, it is hypothesised that within the liver enhanced neoglucogenesis occurs, due to the prevailing portal-vein ratio of glucagon to insulin, and is mainly responsible for the development of massive hyperglycaemia.

In the nonketotic hyperosmolar diabetic syndrome there has been much speculation about the absence of significant ketosis, since this is the cardinal biochemical feature differentiating it from ketoacidotic coma. An early hypothesis linked the absence of hyperketonemia with decreased plasma-