were able to demonstrate malate dehydrogenase activity in the electron dense granules of *T. vaginalis* and Brugerolle (1972) excludes the possibility that they are lysosomes. Müller (1973) demonstrated malate dehydrogenase and α -glycerophosphate dehydrogenase in the electron dense granules of *T. foetus*. I have not seen in any of my electron micrographs of *T. vaginalis* any evidence of fusion of the electron dense granules with vacuoles containing phagocytosed material, a process primary lysosomes undergo in the formation of secondary lysosomes (De Duve and Wattiaux, 1966).

Thus the evidence suggests that the electron dense granules of trichomonads are involved in the energy producing mechanisms of the cell and they should not be labelled as lysosomes. It is likely that the numerous small vesicles, and the Golgi apparatus from which they are thought to have originated, participate in the digestion of phagocytosed material in *T. vaginalis*.

Further research is needed on the cytoplasmic contents of *Trichomonas vaginalis* to elucidate their role in the

metabolism of the parasite and in the pathogenicity of trichomoniasis.

Yours faithfully,

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Liver involvement in congenital syphilis

TO THE EDITOR *British Journal of Venereal Diseases*

SIR—Liver involvement in infants affected with congenital syphilis may range from cirrhosis, first described by Gubler (1849), to simple enlargement. Nabarro (1954) recorded *post-mortem* histological evidence of intercellular fibrosis in nineteen out of 41 infants of under 1 year old who died of congenital syphilis.

Thanks to the kindness of Prof. A. E. Claireaux of the Institute of Child Health, London, we were able to examine a collection of liver sections taken from 59 infants, under 1 year old, who died of congenital syphilis. The serial sections were stained with haematoxylin and eosin and with silver stain (Levaditi method). We were able to confirm the diagnosis of congenital syphilis by reference to the clinical notes incorporated in the *post-mortem* reports. No antisyphilitic treatment had been given to any of the infants.

These sections are from the period 1917–1956, and it is difficult at this distance in time to know precisely how much of this material was included in the late Dr. D. Nabarro's series referred to above, especially as his original series may have contained sections from other centres not available for us to study, and the Department of Pathology may have accumulated further material since completion of his work.

We found that, of the 59 sections stained with haematoxylin and eosin, fifty were histologically normal. Five showed intercellular fibrosis, two fatty degeneration, one a localized area of necrosis, and one biliary stasis. In 41 sections stained with silver stain, we found the tissue to be heavily infiltrated with treponemes, so much so that it appeared that there were more treponemes than liver.

We therefore conclude that intercellular fibrosis appears to be an uncommon finding in congenital syphilis and that a histologically normal liver does not exclude the possibility of heavy infiltration by treponemes.

Yours faithfully,

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