

Medical Audit

SIR,—The concept of medical audit has been put forward as a means whereby the public may be reassured that there is some monitoring of clinical standards. In your leading article (16 February, p. 255) you mention that the pressure for medical audit will undoubtedly grow, and you go on to state that doctors in this country must take care to retain their clinical freedom. To this end medical audit, particularly self-audit, can be an ally rather than an enemy.

There is no doubt that a medical audit is one means by which standards may be investigated, but there is considerable doubt at present regarding the criteria by which standards may be measured, especially in general practice. Criteria can be stated in general terms, such as the need to consider the physical, psychological, and social components of any diagnosis,¹ but to devise criteria related to each of the whole range of patients' problems is much more difficult. In general practice the physical component of a patient's problem may be only a part of his total problem, and the total problem may be highly individual and often complex.

At the present time the importance of medical audit in general practice lies in the orbit of education, particularly continuing education, to which the maintenance of good clinical standards is inseparably related. Though a general practitioner is as capable as anyone else of being blind to his own failings, this is less likely to occur when the scientific habit of self-criticism is maintained. Such self-criticism can be carried out by the general practitioner himself by assessment of process and outcome as revealed by his clinical records, provided he has kept his notes in a form that is capable of such assessment.² By this means he will be able to determine the areas to which remedial educational measures should be devoted.^{2,3}

In the future, medical audit by peer assessment will be practicable only when we know what we do⁴ and what we should be doing. When applied to the range of work of a general practitioner this is a complex exercise but one to which attention is now being given by various workers.—I am, etc.,

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¹ Royal College of General Practitioners, *The Future General Practitioner—Learning and Teaching*. London, British Medical Journal, 1972.

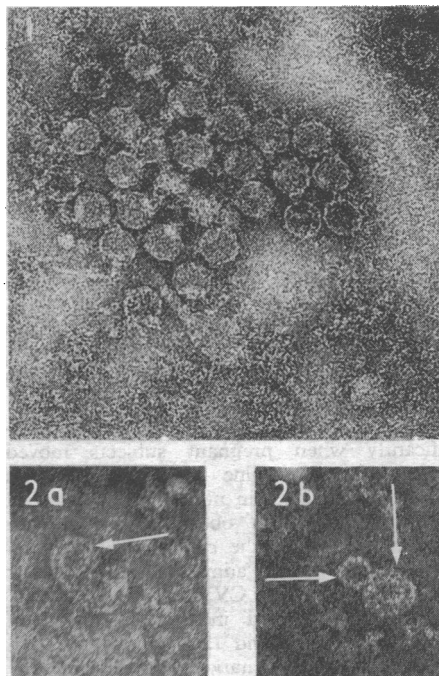
² Acheson, H. W. K., *British Journal of Medical Education*, 1972, 6, 26.

³ Acheson, H. W. K., *Continuing Education for General Practitioners: an Appraisal*. To be published.

⁴ Dudley, H., *British Medical Journal*, 1974, 1, 275.

Hepatitis A Virus-like Particles

SIR,—Feinstone *et al.*¹ described the finding by immune electron microscopy of spherical 27 nm virus-like particles, which appeared to be specific for hepatitis A, in extracts of faeces obtained from patients during the acute phase of infection. We now describe preliminary observations on the finding by a similar technique of virus-like structures in faecal extracts of patients during the icteric phase of hepatitis A. These particles had virus-like morphology (fig. 1) and measured 36–40 nm in diameter. Some of the particles



Virus-like particles in extracts of faeces obtained during the acute phase of hepatitis A $\times 126,000$

were "full" and others were "empty" and they were aggregated by pooled human immunoglobulin, which is known to attenuate or prevent hepatitis A illness. This pool of human immunoglobulin has been shown by radioimmunoassay to be free of hepatitis B antigen and hepatitis B antibody.

In faecal extracts prepared from two other patients with hepatitis A identical, discrete, virus-like structures were found undergoing spontaneous uncoating (figs. 2a and 2b) to reveal an inner core approximately 28–30 nm in diameter. These inner core particles may be similar, if not identical, to the particles described by Feinstone *et al.*¹ The double-shelled spherical structures closely resemble the large particles of the faecal antigen previously described by Cross *et al.*²

We would speculate, by analogy to the morphological and antigenic complexity of hepatitis B virus,^{3,4} that the structures we now describe may be related to the aetiological agent of human hepatitis A.—We are, etc.,

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¹ Feinstone, S. M., Kapikian, A. Z., and Purcell, R. H., *Science*, 1973, 182, 1026.

² Cross, G. F., Waugh, M., Ferris, A. A., Gust, I. D., and Kaldor, J., *Australian Journal of Experimental Biology and Medical Science*, 1971, 49, 1.

³ Zuckerman, A. J., *Hepatitis-associated Antigen and Viruses*, p. 77. Amsterdam, North-Holland Publishing Co., 1972.

⁴ Kaplan, P. M., Greenman, R. L., Gerin, J. L., Purcell, R. H., and Robinson, W. S., *Journal of Virology*, 1973, 12, 995.

Outbreak of Giardiasis

SIR,—I was interested to read the letter from the Brighton Public Health Department on

their outbreak of giardiasis (16 February, p. 288).

I have just been consulted by a young man who visited Leningrad at the end of January 1974 and returned with diarrhoea, abdominal pain, nausea, and general malaise. *Giardia lamblia* cysts have been found and he has just started his second course of metronidazole.

Perhaps the hazards of visiting Leningrad should be more widely known, as the symptoms of the infestation seem to be quite severe.—I am, etc.,

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Mass Screening for Cervical Cancer

SIR,—Your leading article on "Uncertainty of Cervical Cytology" (1 December, p. 501) is incomplete and misleading. The number of women screened in the United States was greatly underestimated.¹ Furthermore, data are available documenting a highly significant decrease in both morbidity and mortality in Louisville, Kentucky, following mass screening covering well over 90% of the population at risk and including more than 92% of low income/high risk women.² Because of limitations on space, further details cannot be given here, but are available.^{3–5}

Death rates in British Columbia have been slow to fall, but a decrease is now evident.⁵ The report by MacGregor from north-east Scotland, where 85% of married women have been screened, shows a significant decrease in new clinical cases.⁵

Cytological screening is relatively inexpensive in the United States⁶ and the cost: benefit ratio of 1:9 is very attractive to health authorities.⁷ This ratio will vary depending on the magnitude of the cancer problem, the efficiency and productivity of the cytology laboratories, and other cost factors. Economic feasibility and the scientific merit of mass screening should be considered separately. If there are to be further delays in the utilization of mass screening, they should be based on economic considerations and not on any questioning of the scientific merit. Controversy will continue only as long as all facts are not considered.—I am, etc.,

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¹ 1974 *Cancer Facts and Figures*. American Cancer Society, 1974.

² Christopherson, W. M., and Parker, J. E., *Cancer*, 1969, 24, 64.

³ Christopherson, W. M., Mendez, W. M., Ahuja, E. M., Lundin, F. E., jun., and Parker, J. E., *Cancer*, 1970, 26, 29.

⁴ Christopherson, W. M., Parker, J. E., Mendez, W. M., and Lundin, F. E., jun., *Cancer*, 1970, 26, 808.

⁵ Boyes, D. A., Knowelden, J., and Phillips, A. J., *Bulletin du Cancer*, 1973, 11 (July), 4.

⁶ Christopherson, W. M., and Parker, J. E., *Cancer*, 1969, 24, 64.

⁷ Program Analysis. Disease Control Programs—*Cancer*, p. 14. Washington, U.S. Department of Health, Education and Welfare, October, 1966.

Other Systemic Effects of Eye Drops

SIR,—It was with interest that we read your leading article on the hypertensive effects of eye drops (5 January, p. 2) as its publication coincided with a related episode which one of our young patients experienced with mydriatic drops.