

Important circumstantial evidence in support of the theory of passive dilatation of the ventricle is provided by consideration of the abnormal but characteristic ventricular cardiographic silhouettes after mitral valve replacement using low-profile disc and central-flow homograft valves. As a result of some preliminary observations we would distinguish the "turnip" heart outline that characterizes the disc valves from the "pear" heart of the homograft valve, and suggest that the shape adopted by the ventricle is determined by the grossly abnormal filling patterns in each case.<sup>6</sup> It seems logical that the reduction in cardiac output that is uniformly observed in these patients is related directly to these changes.—I am, etc.,

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SIR,—It is interesting that Dr. H. Ikram and others (16 August, p. 413) have confirmed the observations that were made in our paper of 1966.<sup>1</sup> We studied the phonocardiograms of 26 patients whose mitral valves had been replaced with prostheses. On no occasion was a third heart sound recorded, although we did record diastolic sounds similar to those found by Hultgren and Hubis.<sup>2</sup> Two of these patients developed incompetence around the prosthesis, and in neither was a third heart sound recorded.

In a later study<sup>3</sup> a catheter was passed across a mitral valve prosthesis from the ventricle to the atrium, thereby creating severe mitral incompetence. The phonocardiogram taken during this episode did not show a third heart sound.

There would now seem to be a considerable body of published evidence that the third heart sound does not occur in the absence of a sub-valve apparatus.—I am, etc.,

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## Pyuria and Bacteriuria

SIR,—We agree with Dr. J. M. Littlewood (16 August, p. 416) that microscopic examination of fresh, unstained urine for the presence of bacteria is a useful and undervalued clinical skill; indeed, we stated in our article (12 July, p. 81) that we had made this observation in nine out of ten bacteriuric girls. As he pointed out, heavily infected urine is usually turbid. However, we have

also seen optically clear urine containing significant numbers of bacteria, and a specimen giving a colony count of 100,000 per ml. would contain only one organism per high-power field, or less than one in each small square of a Fuchs-Rosenthal counting chamber. The reliability of this method is therefore questionable when infection is light or the urine is dilute.

Like Dr. Littlewood, we also commented at some length on the disadvantages of screening for pyuria—though in our hands it gave a false-negative rate of 25% (assuming that the true prevalence of bacteriuria in British schoolgirls is 1.2%),<sup>1</sup> not 40%. However, any method which relies upon microscopic examination is likely to be too time-consuming and costly for screening on a large scale, and the chemical method to which we referred in our article<sup>2</sup> seems more promising because it can be adapted for autoanalysis.

Dr. Littlewood suggests that urine microscopy should be carried out by school medical officers at the medical examination. One of our stated objectives was to assess whether this would be feasible, but we concluded in our last paragraph that it would be premature to introduce it until better techniques are established and the real health hazards of asymptomatic bacteriuria have been evaluated. We are therefore grateful to him for reiterating our plea for further research into the natural history. However, we believe that careful follow-up of bacteriuric girls with anatomically normal urinary tracts, randomly allocated to treatment and control groups, by a limited number of paediatric departments with a declared interest in the field is likely to make a greater contribution to knowledge than the disclosure of large numbers of cases in the country as a whole.—We are, etc.,

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## Rheumatoid Arthritis: Extra-articular Manifestations

SIR,—Dr. F. Dudley Hart's Philip Ellman lecture (19 July, p. 131) will give great pleasure to anyone requiring a concise summary of the extra-articular manifestations of rheumatoid arthritis. However, I should be most grateful if you would allow me to make a comment. Dr. Hart mentions "a new Parkinson's Law . . ." that there is an inverse frequency between the occurrence of rare diseases and their appearance in print in learned journals. Surely the commonest manifestation of rheumatoid arthritis is anaemia; but this topic is hardly discussed.

It is thought that some 25% of rheumatoid patients show a normocytic hypochromic anaemia, the severity of which usually depends on the activity of the primary disease

process.<sup>1</sup> Lassitude, general malaise, and depression are often aggravated, and rehabilitation is no doubt delayed unless this often readily treatable tissue defect is corrected. In fact, very little is known about the aetiology of this anaemia. The serum iron is usually low, and the iron-binding capacity normal. Dr. Hart stresses the fact that many of the apparent systemic manifestations of rheumatoid arthritis are, in fact, side-effects of the various treatments. Undoubtedly salicylate-induced gastrointestinal blood loss is of prime importance, but there are no doubt other aetiological factors. Various suggestions have been put forward and they all play a minor role. For instance, there may be a failure of intestinal absorption of iron (as suggested by patients who respond to intravenous iron therapy after proving refractory to oral therapy), or defect in the iron transport mechanism may exist. Thirdly, there may be an increased absorption of iron by non-bone marrow tissue preventing its utilization. Increased blood destruction as a cause is unlikely, although hypersplenism as occasionally seen in Felty's syndrome may be a factor, but most anaemic rheumatoid patients show no evidence of increased haemolysis. Red cell life-span measurements are also non-contributory.<sup>2</sup> Haemodilution has been postulated as a minor factor, and Dixon *et al.*<sup>3</sup> have shown an increased plasma volume in rheumatoid arthritis patients, as compared to controls. Marrow hypoplasia is never very evident, but in those cases where none of the above factors operate decreased erythropoiesis is the remaining possibility.

For the many patients where treatment is required oral iron, parenteral preparations, or even transfusions are necessary. Surely any paper dealing with rheumatoid arthritis should contain at least mention and discussion, if not prominence, of such an important, common, and fascinating manifestation.—I am, etc.,

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## Care of Aged Doctors

SIR,—Having seen one elderly woman doctor suffer in the way Dr. Kenneth Hazell describes (16 August, p. 412) from apparent lack of more suitable facilities, may I ask: (i) What is the size of the problem? (ii) What happens to those in other professions similarly afflicted? (iii) What help can the B.M.A.'s Benevolent Fund perhaps provide?—I am, etc.,

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SIR,—I am entirely in agreement with Dr. Kenneth Hazell (16 August, p. 412), and feel that something should be done about his suggestion.—I am, etc.,

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