

20%. Between 65 and 70, however, only 3% of men were affected. These figures agree closely with those in the only other published survey we know of the incidence of bacteriuria in non-institutionalized old people—that of Sourander in Finland.²

To discover at what age women acquire this high incidence of bacteriuria we are carrying out a survey of women aged 45 to 65 years in the same general practice. Preliminary findings show the following incidence of bacteriuria:

45-49 years	4% (of 118 women)
50-59 years	2.5% (of 164 women)
60-65 years	1% (of 80 women)

It seems likely that the high incidence of bacteriuria in old age has its beginnings in the late sixties in women and early seventies in men. We found a correlation (at 5% level) between bacteriuria and history of prostatic operation in men. There was, however, no correlation in women between bacteriuria and parity nor with a history of surgical interference at parturition nor with gynaecological operations.

We also treated with ampicillin a group of the women over 65 who were found to have infection.³ Of 22 patients who completed the treatment 10 had sterile urine three months later, but 12 remained infected or became re-infected. Symptoms of infection were higher in the former than the latter group, and most of these symptoms cleared after treatment. In those with persistent urinary infection there were few symptoms and these remained. Our findings therefore support your statement that many cases of bacteriuria in old age are chronic and refractory to treatment.

As to the cause of this high incidence of chronic bacteriuria in old age, we agree with your suggestion that obstructive uropathy is a common underlying factor. Since the incidence of infection in men and women is similar, it is unlikely that prostatic enlargement is the main cause of this. We believe that a common cause in old age is a functional obstructive uropathy associated with the neurogenic bladder. We have found evidence of a neurogenic bladder in a high proportion of non-incontinent elderly women⁴ and have suggested that the presence of uninhibited contractions, a bladder capacity of only 250 ml., and up to 100 ml. of residual urine are normal findings in a high proportion of elderly women. These changes are probably responsible for the high incidence of nocturnal frequency (70% of men and 64% of women over 65 get up at least once nightly to pass urine) and, we suggest, are also important factors contributing to the high incidence of bacteriuria in old age.—We are, etc.,

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Infection with Adult *Toxocara cati*

SIR,—A Sussex boy aged 4, who had been having frequent daily epigastric pains for four weeks, often connected with meals and lasting for half to one hour, vomited a specimen of *Toxocara cati* one morning after

drinking some warm milk. He was sick several times that day, but gradually over the next three weeks the pains diminished and finally disappeared. His stools were negative for worm eggs, as were those of his parents. He had no eosinophilia and in the differential count there was some shift to the left; the haemoglobin was 80%. A cat in the household was known to have worms and was probably the source of the boy's infection.

T. cati has been recorded as an adult infection of man about 18 times¹ from various countries, twice from England^{2,3} and twice from Ireland.^{4,5} It is normally and strictly a parasite of Felidae, among which there are 26 different kinds of hosts.⁶ Although *T. cati* is evidently a more frequent adult infection of man than its close relative *T. canis*, of which there appear to be only two cases on record,⁷ it is possible that some of the earlier reports may have been mis-identifications, since *T. cati* and *T. canis* can easily be confused. The specimen recovered in the present case is a male in fairly good condition and was identified with certainty as *T. cati*. It measures 36 mm. long by 1 mm. in maximum diameter; oesophagus 2.65 × 0.4 mm. with posterior ventriculus; cervical alae broad, 1.5 × 0.3 mm.; spicules, 1.9 mm. long; cuticular striations, 12–16 μ apart; tail 0.2 mm. long, typically probular; caudal papillae not well defined. It therefore represents only the third published occurrence of *T. cati* as an adult infection of man in England.

The apparent scarcity of *T. cati* in man in this country, where it is not uncommon in domestic cats, is notable and underlines the host specificity of the parasite. Its medical importance as an adult worm, unless many cases have been unreported, is therefore negligible. Its possible aetiology in the visceral larva migrans syndrome must be borne in mind, however, and worm-free cats as well as dogs should be a *sine qua non* in every household.—We are, etc.,

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Disodium Cromoglycate in Bronchial Asthma

SIR,—We are grateful to Dr. I. W. B. Grant (29 March, p. 842) for drawing our attention to the over-emphatic conclusion in the last paragraph of our paper (1 March, p. 552). His criteria for improvement are, however, no less arbitrary than our own, and he ignores the fact that only three of the eleven subjects had initial total scores for breathlessness, tightness, and wheeze which

were large enough to allow the fall of 126 points, regarded by him as being "modest but useful." A case in point was patient No. 4 whose symptoms were relatively mild while taking placebo (score 41 points) but who became asymptomatic (score 0) while taking disodium cromoglycate. This was surely more than the marginal improvement inferred by Dr. Grant. Any criterion used to assess whether a reduction in score is valuable must take into account the initial figure; thus halving of a small score after taking disodium cromoglycate may indicate an improvement which is well worth while to a patient.

The main object of our study was to find the physiological basis for the subjective benefit claimed by patients who take disodium cromoglycate when living south of the border. In the nine subjects who were subjectively better there was evidence of reduced airway resistance. This was best demonstrated by the use of the peak flow meter, because, we believe, this measurement was made twice daily. It is likely that the forced expired volume and the specific conductance of the airways would be equally reliable if performed with the same frequency, but this is scarcely possible for outpatients.—We are, etc.,

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Anticoagulants after Myocardial Infarction

SIR,—It is truly regrettable that the Working Party on Anticoagulant Therapy in Coronary Thrombosis of the Medical Research Council (8 February, p. 335) devoted such great effort to determine the worth of anticoagulant therapy for the treatment of acute myocardial infarction only to find that by using the Thrombotest as a guide for dosage at levels of 10–20% they had administered the anticoagulant in less than recognized optimal therapeutic levels. As pointed out by Poller and Loeliger,¹ and as determined in our laboratory some years ago, a satisfactory level of therapeutic activity can only be maintained when the Thrombotest results are in the 5–10% range—7% is ideal. This range approximates the recognized therapeutic level of 15–23% by the Quick test.

The report of the Anticoagulant Committee of the American Heart Association (1954), emphasized the need for adequate therapeutic levels, noting that the rate of clinical thromboembolic complications occurring at dosage levels producing prothrombin activity of higher than 23% (Quick) was twice that occurring at levels of less than 23% activity. It was stated that "to receive full benefits of anticoagulant therapy, patients should be kept at all times at prothrombin times of at least 25 seconds (23% or less)."² For this study the Quick (Link-Shapiro) test was used with the control levels of 14–16 seconds. This concept has been widely accepted for all oral anticoagulant therapy, but was apparently not given sufficient consideration by those responsible for the protocols and administration of the studies of Hilden *et al.*,³ Seaman and Griswold,⁴ and the recent study of the M.R.C. Working Party. In each of these studies the results revealed a parallelism between the lack of adequate dosage and un-