debatable, but this case seems to show that rheumatoid arthritis and the Australia antigen can coexist.—We are, etc.,

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SIR,—Dr. C. J. Burrell and others (7 October, p. 23) stressed the occurrence in rheumatoid arthritis of false-positive results in tests for Australia or hepatitis-associated antigen (H.A.A.) using latex agglutination techniques. They suggested that the false-positive results were due to rheumatoid factor in the serum.

Our experience with the search for H.A.A. (using countercurrent immunoelectro-osmophoresis) in the serum of 152 patients suffering from rheumatoid arthritis (84 of whom were positive for the rheumatoid factor) confirms the observation of Burrell *et al.* that there is no evidence of a relation between rheumatoid arthritis and a significant incidence of H.A.A. detectable by countercurrent immunoelectro-osmophoresis. The H.A.A. test was positive only in one rheumatoid-factor-negative patient with polyarthritis, who developed hepatitis two weeks after the serum was obtained.

Although we found in our series of 152 rheumatoid arthritis patients a significant incidence of positive tests for antinuclear factor (22.6% of those positive and 8.8% of those negative for rheumatoid factor), the absence of H.A.A. in rheumatoid arthritis is in contrast to the high incidence of H.A.A. (by countercurrent immunoelectro-osmophoresis) reported in systemic lupus erythematosus.¹⁻³—We are, etc.,

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Intestinal Parasites and Au Antigen Transmission

SIR,—Dr. M. Barbotin and Mr. J. L. Ondart (10 June, p. 653) suggested a possible association between hookworm and strongyloides infestation and the presence of Australia antigen in the blood. We have examined stool and blood samples from 300 randomly selected patients aged 10 years or over attending the University College Hospital, Ibadan, for the presence of hookworm ova or strongyloides larvae in the stool and for Au antigen in the blood (see Table). The overall incidence of Au antigenaemia is 2.3%, and this is significantly lower than the incidence of 6.05% ($P < 0.05$) found among 8,000 blood donors in Ibadan.¹ However, these donors were all young adult males, and when comparable age and sex groups in the present series are compared the antigenaemia rate of 5% is found not to differ significantly from that found in the earlier blood donor series. Our sample of patients is therefore probably representative of the population at large.

Age (Years)	Number of Patients		Hookworm Positive		Strongyloides Positive		Au Antigen Positive	
	Male	Female	Male	Female	Male	Female	Male	Female
0-10	0	1	0	0	0	0	0	0
11-20	18	13	9	3	7	1	1	0
21-30	28	29	4	12	0	2	1	0
31-40	31	21	5	3	5	1	2	1
41-50	24	20	6	2	1	1	1	0
51-60	18	14	7	2	5	1	0	0
61-70	7	6	2	1	1	0	0	0
71 and over	3	2	2	0	0	0	0	0
No age recorded	37	18	8	5	4	1	0	1
Total	166	124	43	28	23	7	5	2
No age or sex recorded ..	10		1		0		0	
Total	300		72 (24%)		30 (10%)		7	

We found a substantially higher incidence of hookworm and strongyloides infestation than was found in Senegal. Our rate of 24% for hookworm was similar to that reported by Cowper from Ibadan,² though the incidence of strongyloides infestation in the present series (10%) seems to be significantly higher ($P < 0.01$). Among the seven patients carrying Au antigen in their blood three were excreting hookworm ova and one was excreting strongyloides larvae, an incidence of 42.8% and 14.2% respectively. Chi-square analysis of the incidence of hookworm or strongyloides infestation and Au antigenaemia shows no evidence of a relationship between these two conditions ($P > 0.3$).

While there is little doubt that the incidence of Au antigenaemia is higher in the tropics than in temperate areas, and transmission by insects has been shown to be possible,³ we feel that the present evidence is insufficient to implicate hookworm or strongyloides as being concerned in the transmission of Au antigen, at least in the Ibadan environment.—We are, etc.,

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Trichuris Infestations and Difetarsone

SIR,—Monoinfestations with *Trichuris trichiura* were rare until anthelmintics selectively active against *Ascaris lumbricoides*, hookworms, and *Strongyloides stercoralis* made evident the presence of *T. trichiura*. Difetarsone (14 October, p. 73) is specifically effective against *T. trichiura*, like piperazine against *A. lumbricoides* and bephenium against *A. duodenale*. Polyparasitosis, with its multiple clinical manifestations, is increasingly encountered in temperate regions. Several broad-spectrum anthelmintics have been developed, but few completely remove the *Ancylostoma* and *Trichuris* burden.

Mebendazole (methyl (5-benzoylbenzimidazol-2-yl) carbamate) has been studied in children and adults with mono- and polyparasitosis in Africa,^{1,2} Asia,³ Europe,^{4,5} and North,⁶ Central,⁸ and South America.^{9,10} A single 100-mg tablet radically cures infestation with *Enterobius vermicularis* and *A. lumbricoides*. A standard 100-mg dose given twice daily for three consecutive days is

virtually 100% effective against *Necator americanus*, *A. duodenale*, and *T. trichiura*, and shows high promise against *Taenia solium* and *T. saginata*. Activity against *S. stercoralis*, though significant, is less regular. Because of its potency and its broad spectrum of anthelmintic action, coupled with total absence of side effects and standard dosage, irrespective of the patient's age or weight, mebendazole is of special value in all patients with single or multiple helminth infestations.—We are, etc.,

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Myxoedema and Retention of Urine

SIR,—Renal function is often moderately affected in hypothyroidism,¹ probably owing to interstitial infiltration, enlargement of the basal tubular membrane,² and the low renal perfusion brought about by the illness.³ So far as we know there have been no reports of hypothyroidism presenting as renal failure resulting from urinary obstruction due to vesical paresis caused probably by myxoedematous hypotonia of the smooth musculature. We report here a case of this kind.

Six months before being admitted to hospital a 67-year-old woman developed character changes and urinary retention. Daily catheterization was required. Later constipation, a changed tone of voice, mental confusion, and deafness also developed and became progressively worse. On admission the patient was typically myxoedematous. The bladder could be palpated in the abdomen, the Achilles tendon reflex was slow, the E.C.G. presented low voltages, and the E.E.G. slow, diffuse, predominantly frontal waves. Neurological examination was otherwise normal. Blood examination showed: haemoglobin 7.2 g/100 ml, leucocytes 9,200/mm³, protein-bound iodine 0.4 µg/100 ml,