CORRESPONDENCE

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Chloramphenicol Resistance in the Typhoid Bacillus

SIR,—In their paper (5 August p. 329) Dr. E. S. Anderson and Mr. H. R. Smith do not mention co-trimoxazole when discussing alternative chemotherapeutic agents for the treatment of enteric fever caused by chloramphenicol-resistant *Salmonella typhi*.

We have treated 24 patients suffering from typhoid fever and four with paratyphoid fever with co-trimoxazole. Twenty-six of these 28 patients responded satisfactorily, one failed to respond, and one died. Two patients who initially responded to co-trimoxazole relapsed within 14 days of the end of the two-week course of treatment. None of the patients became carriers. When our results are considered together with reports from other countries of the treatment of enteric

months (14 negative stools), and 26 months (16 negative stools) respectively.—We are, etc.,

A. M. GEDDES
J. A. D. GOODALL

East Birmingham Hospital,
Birmingham 9

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Reports of Treatment of Enteric Fever with Co-trimoxazole

Country	No. of Patients Treated	Successfully Treated	Died
Nigeria ¹ ..	6	6	
Uganda ² ..	5	4	
Chile ³ ..	62	58	
India ⁴ ..	100	100	
Switzerland ⁵ ..	6	6	
Egypt ⁶ ..	13	13	
Rhodesia ⁷ ..	50	48	1
India ⁸ ..	40	40	
South Africa ⁹ ..	103	91	1
England ¹⁰ ..	28	24	1
	413	390	3

fever with co-trimoxazole (Table) it will be seen that 95% of the 413 patients were successfully treated and the death rate was only 0.75%.

We have also treated four typhoid carriers with co-trimoxazole. One failed treatment but three remain clear after follow-up for periods of four months (15 negative stools), six

Rubella Vaccination

SIR,—Your leading article (5 August, p. 305) summarized some of the problems associated with currently licensed rubella vaccines and pointed out that the present practice in the U.S.A. of vaccinating primary schoolchildren might necessitate a further dose of vaccine being given on leaving school. In the United Kingdom vaccination is recommended for 11 to 14-year-old girls. But are 11 to 14-year-old vaccinees still going to retain immunity during pregnancies up to three decades later? It is hoped that the answer will be "yes," but as yet there is, of course, no way of being certain.

Reinfection following naturally acquired infection has occasionally been reported, but there is no evidence to suggest that if this occurs during pregnancy it is associated with fetal damage. Indeed, all attempts to detect viraemia in those whose immunity is naturally acquired have been consistently unsuccessful. Reinfection following vaccine-induced immunity has been reported more frequently, but some comfort may be gained from reports that viraemia has also not been documented in such cases.¹⁻⁴ However, viraemia, particularly when only low levels of virus are present, is often difficult to detect. Indeed, it is rarely detected following vaccination though it must, of course, occur. Following both naturally acquired and vaccine-induced infection antibody levels may decline slowly over an extended period, but since vaccine-induced antibody titres are often four to eight-fold lower than those which are naturally induced reinfection with viraemia and consequent fetal infection may be a potential hazard in years to come. However, in addition to any quantitative differences between the immunity induced by natural infection and vaccination there may also be important qualitative differences.

Thus it is now increasingly evident that local (nasopharyngeal) antibody, particularly IgA, is of importance in preventing infection against viruses which gain entry through the respiratory tract. Whereas naturally acquired rubella induces local antibody, recent studies indicate that vaccines do not, with the possible exception of the RA 27/3 vaccine,⁵ particularly when given intranasally, though this route of administration may not always be successful with children. In addition this vaccine also induces complement-fixing and precipitin responses⁶ which resemble those following naturally acquired infection. Though immunity induced by this vaccine may compare