can be excluded is false. This must be emphasized because patients can have all the signs and symptoms of brucellosis without any demonstrable antibodies. The following case history illustrates the truth of this statement.

In May 1967 a 37-year-old man stayed on a farm during an abortion storm and drank raw infected milk every day. On 8 July 1967 he was thought to have "flu" and was in bed for a fortnight with a very severe headache, general aches and pains, and sweating which was so severe that he gave up wearing pyjamas. He was treated for a viral infection and was given tetracycline for three weeks. He felt fit until 29 July, when his symptoms returned. On 1 August brucellosis was diagnosed and he was admitted to hospital on 5 August.

Blood culture taken on 8 August grew *Brucella abortus* biotype 1; this was reported on 27 September and he began treatment with tetracycline and streptomycin for a month with a good response. At the end of October 1967 he had a relapse. He had a further relapse lasting 14 days in May 1968, when his spleen was found to be palpable. On 1 July he was given an intradermal injection of brucellin. The next day he felt a little unwell, and on 3 July the brucellin test when read was completely negative.

He had two further relapses, in November 1969 and August 1970, and was treated each time with tetracycline. When seen on 1 March 1973 he had been complaining of severe mental depression and feeling tired. This commenced a week after an influenza vaccine injection in December. He thought he had "flu" and could not understand the symptoms because of his recent vaccination. Since then he has greatly improved, and when last seen was feeling tired but much better.

Over a period of years his blood was examined and the serum agglutination, antihuman globulin (Coombs), and complement fixation tests carried out. These were done on seven occasions between 1969 and 1973 with negative results. Three sera were examined using an antigen prepared from the organism isolated from the patient's blood, also with negative results. In blood taken on 21 May 1968 the serum IgM level was 104 mg/100 ml (normal range 50-170).

In the past I have received numerous specimens from patients complaining of symptoms suggestive of brucellosis who were in close contact with infected cattle. The question must arise, when it is impossible to demonstrate antibodies to brucella and no other diagnosis has been made, as to whether these patients are suffering from brucellosis, particularly in the light of the case quoted. Unfortunately blood cultures yielding *Br. abortus* are rare in brucellosis except in the acute case; hence the difficulty in establishing the diagnosis of brucellosis in a patient who does not produce antibodies.

One further point in the leading article that I would like to take up is the statement that the acute disease usually dies out in the patient within a year of infection. I wonder how many people would agree with this statement? Certainly it is no reason to allow a case of acute brucellosis to go untreated, and such an action or lack of action would amount to negligence. The acute case generally readily responds to treatment, while in the chronic case treatment is extremely difficult and very disappointing. No one who has made the diagnosis of brucellosis in the acute stage should neglect to give adequate antibiotic therapy for at least six weeks.—I am, etc.,

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Coping with Minor Casualties

SIR,—Before more words are wasted would someone please define "minor casualty" for me? Mr. D. Lamont (23 March, p. 573) ap-

pears to believe that the ambulant state of the patient is the criterion.

The "young man" he advocates for the "lowly function" of "eliminator" will fail to diagnose the ruptured metacarpophalangeal ligament or the severed tendon or nerve concealed beneath the most trivial of cuts if he is denied the right to perform a full, unhurried examination of the injured part. He would also need more than an "apartment" to provide tetanus prophylaxis, simple dressings, and "etc [?]." Heaven forbid that he should even think about removing foreign bodies from eyes in inadequate surroundings and without proper examination.

It is not the ambulant patients who block the casualty officer's time; it is the ubiquitous "collapse". These patients are all brought by ambulance in response to 999 calls and all require full examination. But most of these are cases of social problems, long-standing abdominal pains, minor cerebrovascular accidents, faints, drunks, hysterics, and various psychosomatic disorders, all of which require a great deal of time to sort out and which, I feel, could be dealt with far more effectively and efficiently by the G.P.

Surely if an eliminator is required in a casualty department, he should be the most experienced doctor available and not "the most junior medical member of the staff".—I am, etc.,

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SIR,—When one reads the correspondence on "Coping with Minor Casualties," and especially about the poor fellow who had his Sunday lunch disturbed, one wonders what on earth the present-day doctor is in practice for.—I am, etc.,

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Treatment of Meningococcal Carriers

SIR,—With reference to the paper by Dr. D. M. Easton and others (16 March, p. 507), I feel that I should point out that the statement that tetracyclines are not effective in the treatment of nasopharyngeal meningococcal carrier states is incorrect for the most recent of the tetracycline antibiotics—namely, minocycline (7-dimethyl-amino-6-deoxy-6-demethyl tetracycline).

It has been shown¹⁻⁶ that minocycline 100 mg twice daily for a period of probably not less than five days significantly reduces the number of nasopharyngeal carriers of meningococci. In the studies completed to date there has been no evidence of resistance of *Neisseria meningitidis* to minocycline.—I am, etc.,

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Effects of Oral Contraceptives on Endogenous Hormone Secretion

SIR,—We were interested in the comments of Drs. H. S. Jacobs and Anne M. Jequier (23 February, p. 328) concerning our paper on the effects on endogenous hormone secretion of a combined low-oestrogen contraceptive containing mestranol (5 January, p. 11).

Though we agree that the urinary assay for luteinizing hormone is not specific for biologically active hormone, nevertheless it does detect the presence of LH fragments, whether desialylated or not, which have been derived from pituitary LH. We therefore consider that this is a useful measure of pituitary activity which we have used as a means of comparing cycles with and without the exhibition of a low-dose oestrogen oral contraceptive. Furthermore, as we indicate in our paper, urinary LH levels measured by precisely the same technique have been previously used by one of us in the assessment of the effects of different contraceptive formulations. In these previously reported studies¹ we found a more significant inhibition of LH with the higher-dose norethisterone-containing preparations which also contained ethinyl oestradiol. It is probable therefore that these differences are primarily related to an effect of mestranol or perhaps the lower dose of norethisterone.

The other more significant point we wish to make concerns the high output of oestrogen in some of the oral-contraceptive-treated cycles. The fact that there was this evidence of marked ovarian activity in the absence of ovulation in two of these women and that active steroidogenesis was taking place in most of the other treatment cycles merits further comment and investigation.

We await with interest the results of the studies of Drs. Jacob and Jequier, particularly as they suggest that there may be differences in the effects of ethinyl oestradiol and mestranol on the pituitary ovarian mechanism, as suggested in our paper.—We are, etc.,

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¹ Orr, A. H., and Elstein, M., *Journal of Endocrinology*, 1969, 43, 617.

Contraception and Abortion

SIR,—King's Termination Study II (9 March, p. 418) really tells us very little that is new and also draws some conclusions for which no basis exists in the published findings.

It is widely accepted that the closer the doctor-patient relationship the better are the results of treatment. The King's College Hospital figures have shown that this is also true when applied to enthusiastic contraceptive advice and its success. However, I remain to be convinced that it was necessary for them to carry out 360 abortions as a necessary prelude to this success. A less liberal but equally compassionate approach (the two are not mutually exclusive) to requests for termination, coupled with proper contraceptive advice and enthusiastic follow-