

(50%); no ulcer discovered in the stomach or duodenum, 113. In other words, in this small series over half the cases were shown to be suffering from chronic peptic ulceration, and these figures run parallel with those recently published by Morris.

It may be stated, therefore, that if all the chronic dyspeptics in the Army who are referred to large general hospitals were examined radiologically it would be found that destructive lesions of the stomach and duodenum were present in fully half of the cases. Under existing circumstances, however, the true incidence of chronic ulcer of the stomach and duodenum will never be accurately assessed, because there are still a host of officers and men in the fighting Forces—a number of them holding key positions—who, although suffering from these conditions, prefer to treat themselves rather than report their condition to their medical officer. They know full well that if on x-ray examination a gastric or duodenal ulcer is discovered they will be invalided out of the Army without further ado. Those men, therefore, who wish to continue their services with the Forces (and I hold that the proportion of such men is high) find themselves with only two alternatives: either they must report themselves to the medical officer and risk discharge from the Army or they must refrain from reporting their condition and must take a chance on the subsequent development of complications.

It is claimed that as the majority of the men proved to be suffering from these lesions have already been dismissed from the Forces, chronic gastric and duodenal ulcers are no longer a problem in the Army. This, however, is incorrect. The incidence of chronic peptic ulcer among the adult population in Great Britain at the present time is about 12% to 15%, and there is no reason why this incidence should not be approximately the same among those serving in the Forces. If it is conceded that this estimate of the incidence is accurate, chronic ulcer of the stomach and duodenum will continue to be a very serious problem, which will, sooner or later, have to be faced and faced boldly.

I submit that those who are shown to be suffering from chronic peptic ulcer and who wish to be invalided out of the Services should be accorded this opportunity, as such subjects are unlikely to prove co-operative whatever line of treatment is adopted. But those similarly affected who, on the other hand, wish to continue to serve with the Forces should be given every facility for being treated in specially staffed and well-equipped hospitals set aside exclusively for the management of these cases. If carefully supervised medical therapy were applied thoroughly and efficiently in such specialized hospitals a large number of these soldiers could be rendered symptom-free and fit for further service; and the majority with chronic callous lesions or complications which demand operative treatment could, following such surgical measures, be placed in a graded position for a probationary period, and those proving to be satisfactorily cured be returned in due course to their units.—I am, etc.,

London, W.1, March 21. RODNEY MAINGOT, F.R.C.S.

Crush Injuries

SIR.—The articles on "Crush Injuries" in the *Journal* of March 22 are of intense medical interest, especially as further investigation of such accidents might result in combating successfully the syndrome referred to and therefore in saving lives.

A large proportion of the fatal accidents in mines result from crush injuries, many of them similar to those which are brought about by air raids. The experience and views of surgeons who deal with a large number of such cases in coal-mining areas would therefore be of immense value and greatly appreciated.—I am, etc.,

March 31. S. W. FISHER,
H.M. Medical Inspector of Mines.

SIR.—It may seem an impertinence for one with no experience of these injuries to write, but on reading the articles in the *Journal* of March 22 I felt that some ideas might justifiably be put forward.

During the time—a few hours or maybe days—that a person is buried under fallen masonry there is a continual loss of body fluid. There is the loss of intake fluid that the person would have taken during that period, and there is the loss that goes on ceaselessly during breathing. As this loss goes

on the blood fluid must decrease and therefore the blood salts become more concentrated. The case becomes one of lowered blood volume and a resulting diminished renal blood flow. The *Journal* states, "Attempts made to explain the rising blood urea of hypochloreaemia, gastro-intestinal bleeding, Addison's disease, diabetic acidosis have usually invoked the idea of lowered blood volume and diminished renal blood flow." Again, it states that "these cases resemble the toxæmia of severe burns"; but the ill effects of a burn are in direct proportion to the loss of fluid from the body due to the burn; so again the condition is due to the loss of body fluid.

In crush injuries we have not only a loss of fluid but also the effects of pressure. This pressure forces the blood from the part, and incidentally helps to prevent collapse by sending the blood to the brain, heart, and lungs. Where there has been a great loss of blood we bandage the limbs to force the blood to these parts. In crush injuries the weight does this.

To prevent caisson disease the chief treatment is slow decompression. Is it not permissible to take this as an analogy and copy it? When the weight is removed in a case of crush injury there must be a sudden expansion of the limb and a quick suction of blood into the part. This sudden suction must cause numerous slight extravasations of blood, and the sharp withdrawal of blood from the brain must lead to collapse. Would it not be better to have slow decompression in these cases? It would not be possible to withdraw the debris slowly, but it would be possible to bandage the part tightly as it becomes exposed. This bandage could then be slowly slackened over a period of time, and during this time fluids could be administered to make up for the fluid loss and to decrease the concentration of the blood.

The *Journal* also stated that "the pathological appearance of the kidney is said to have borne a resemblance to the transfusion kidney." Is it not possible that it is a transfusion kidney? In severe bleeding there is a loss of all the constituents of the blood, while in these cases there has been a loss not of all the constituents but only of the fluid part. This may have an effect on the blood transfusion.—I am, etc.,
Stewarton, Ayrshire, March 26. E. R. LLOYD.

SIR.—I have read with interest the accounts of renal failure supervening on crush injuries given in the *Journal* of March 22.

I think possibly toxic substances or toxins from the crushed muscles are absorbed into the blood and act on the kidney tubules as poisons. First the renal system is thrown out of gear, then secondary effects are observed in the blood and on other systems (e.g., lungs and heart). I think plenty of glucose would neutralize these toxins. I had once a very bad case of burns to treat—a child under 2 years with a large area of body surface burnt. Supposing that toxins must be absorbed from this large surface, I gave her as much glucose fluid as she would take—indeed, pushed it. (The burn was dressed with silver nitrate and tannic acid.) The child got jaundice and later nephritis, but was still given as much glucose as possible and recovered.

I do think that glucose somehow or other neutralizes toxins which may for the time being prove too much for the kidneys. Anyway, I think it is worth trying—both in drinks and in light diet; it should be pushed in as large quantities as the patient can be persuaded to take.—I am, etc.,

Liverpool, March 27. FLORENCE M. E. DAVIES.

Cerebral Venous Thrombosis after Childbirth

SIR.—The speculation conveyed in Dr. J. Shafar's letter (March 22, p. 455) has been in my mind also since I read the annotation on Batson's work (*Ann. Surg.*, 1940, **112**, 138) in the *Journal* of February 22 (p. 284). The paper by Dr. Sheehan and myself (March 8, p. 349) had been submitted for publication some time before the annotation appeared, and we were not aware of Batson's article, but in connexion with certain cases of thrombosis in the superior longitudinal sinus following childbirth, which I hope to report soon, the question had been persistently in my mind whether the thrombus in the sinus could not be in some way metastatic. When I read of Batson's findings I realized that it could. It is most tempting