The patient was treated with desiccated stomach muscle (preparation B), initially 150 grams daily, with a rapid response in both erythrocyte and reticulocyte counts. The reticulocytes (Chart 5) rapidly rose to 28.3 per cent., but had not reached a normal level again until the twenty-eighth day after commencement of the treatment, when the dosage was reduced to 100 grams daily. The red blood cells rose steadily and progressively until their count was 4,008,000 per c.mm. on the thirty-seventh day, when the patient was discharged from hospital.

Summary.

The present communication is a summary of the results obtained in a preliminary series of nine cases of pernicious anaemia. These were divided into three groups, which were treated respectively with (a) normal gastric juice, (b) raw fresh mucous membrane or muscular layer of hogs' stomachs, and (c) desiccated preparations from these two portions of the stomach of the hog.

The results were controlled by daily reticulocyte counts, frequent regular full blood examinations, and the clinical conditions of the patients, both before and after discharge from hospital.

Cases of pernicious anaemia in various stages of the disease have been examined, and the final results obtained in all cases are at least equal to, whilst the immediate clinical results appear to be distinctly better than, those obtained in corresponding cases on a fresh liver diet.

Representative cases from each group under observation have been described to illustrate points brought out in the present communication.

It is not proposed to discuss here the theoretical considerations raised until the series has been extended more fully. Briefly, however, the results are these:

1. Normal gastric juice (150-200 c.cm. daily with meals) has given a definite improvement in the clinical condition, blood picture, and reticulocyte response slightly better than is observed with a fresh liver diet under similar conditions. This tends to support some of the observations made by Castle.

2. Hydrochloric acid and commercial pepsin alone have no effect in the improvement of the haematological condition of pernicious anaemia, nor are they essential for successful treatment with stomach of the hog.

3. The mucous membrane and the muscular layer of the stomach of the hog are both active in the treatment of pernicious anaemia. The results so far obtained show that this diet, weight for weight, is at least equal to or better than a liver diet.

4. Similarly, desiccated preparations of these two separated portions of hog's stomach are potent in the successful treatment of the disease. This form is convenient and easy to administer.

5. Clinically there is little difference in the potencies of all the preparations of hog's stomach described above, whilst fresh stomachs, both whole and dissected, have been kept for several days at a low temperature without noticeable loss in activity.

6. Compared to liver, the results appear to be slightly better, and the improvement in the condition of the patients in my short preliminary series has certainly been more rapid with hog's stomach therapy. Glossitis and paraesthesiae, in particular, have been found to respond more readily.

7. Since both the peptic-enzyme-containing (mucous membrane) and the non-peptic-enzyme-containing (muscle) portions of the stomach of the hog are active, they may be placed in the same category as liver and kidney as very potent sources of the active haematopoietic substance.

8. Eosinophilia occurs with this form of therapy as with liver.

It is proposed to give fuller details at a later date of these investigations, together with certain other work now in progress, when the series will have been much extended.

I have again to thank the honorary physicians of the Manchester Royal Infirmary for kindly allowing me to use their patients in this investigation, Professor H. S. Raper, F.R.S., for his unflinching interest and help, and Drs. Agnes Bodoano and Bessie Cadness for their careful determinations of the reticulocyte and blood counts. I gratefully acknowledge, also, the invaluable assistance rendered by Messrs. Benger's Food, Ltd., of Manchester, and Dr. Bullock, who kindly went to considerable trouble to prepare for me the desiccated preparations from the fresh hogs' stomachs.

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THE INJECTION CURE OF HYDROCELE.

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It must be presumed that the old procedure of injection for the cure of hydrocele of the tunica vaginalis was unsatisfactory, either because of the uncertainty of its results or on account of its painful character, and it fell into disuse. The substitution of operative measures, while satisfactory in their respective technique and results, was a somewhat severe procedure for old patients. The use of general anaesthesia, the stay in bed for some ten days or longer, and the difficulty in finding hospital accommodation for such cases, made the need for a simpler procedure desirable.

The risk of general anaesthesia might be obviated by the substitution of local, which was entirely satisfactory, but the period of convalescence was not abolished. An extended use of quinine and urethane for the injection of varicose veins suggested that one had a solution which might serve an equally useful purpose to damage the endothelium of the tunica, and that with a minimum of pain and reaction.

The method was first tried in June, 1928, at the Royal Victoria Infirmary, on a patient aged 54, who had had a right hydrocele for two years, during which time it had been tapped ten times. It regularly filled up in two months. A small area of the front of the scrotum was infiltrated with novocain, and the tunica tapped by the ordinary hydrocele trocar. As far as possible the tunica was emptied and 2 c.cm. of quinine and urethane introduced through a spinal anaesthetic needle passed through the cannula. The needle was withdrawn, and later the cannula, care being taken to avoid any contact between the solution and the other tissues. By gentle massage the solution was distributed over the whole surface of the tunica. Fluid gradually re-accumulated and was aspirated seven days later, and was found to be slightly turbid. No pain, discomfort, oedema, or fever was manifested, and the patient was then discharged. At the present time, eighteen months later, there has been no return of the fluid.

Shortly after, a second case, a patient aged 72, in whom the hydrocele had been present for some years and who had been tapped several months before, presented himself with the tunica again very tense and about the size of a coco-nut. A similar procedure was carried out, except that the hydrocele was aspirated through a spinal anaesthetic needle and injected through the needle without withdrawal—that is, by means of a single puncture. No pain was experienced. Fluid again accumulated and was aspirated a week later, it being slightly turbid as in the first case. At the present time there has been no return of the fluid; the testicle is slightly thickened, but a suspensory bandage previously worn has been discarded.

The first patient was admitted to hospital as a precaution, but all others have been dealt with as out-patients, and the treatment in no way interfered with their ordinary duties.

Since then three further patients have been treated, over a year ago, with correspondingly satisfactory results; although tapping was practised after operation in these cases, further experience may prove that this is unnecessary, the fluid being gradually absorbed.

It appears that we have now a satisfactory injection treatment for hydrocele, which is painless and, like the similar method in use for varicose veins, can be carried out without invalidity.