mented by the results of aspiration, which have shown that not only can cyclic changes in the endometrium occur in amenorrhoea, but that the histological changes of the normal endometrial cycle can be provoked by hormone therapy without causing the ultimate manifestation of haemorrhage. The cause of this is obscure: either a specific agent for haemorrhage is absent or it is not present in sufficient quantity, or the various hormones involved are secreted asynchronously. However that may be, the one external manifestation of menstruation—that is, haemorrhage—is absent, and it is here that aspiration is of value in determining both the timing of the cycle and the appropriate therapeutic technique necessary for its stimulation.

STERILITY

In cases of sterility the information derived from aspiration is of value in both diagnosis and treatment: it is particularly important in determining the presence of anovular menstruation, which has been shown to be a frequent cause of the condition. The diagnosis is made by examining the endometrium just before menstruation; if the normal premenstrual changes are not present it is evident that the factor which produces them—that is, the corpus luteum—is either absent or deficient. This phenomenon of anovular menstruation is also the basis of many cases of post-menopausal cyclic haemorrhage, and here, as in sterility, a diagnostic aspiration will often elucidate the true nature of the haemorrhage and provide the index for its hormonal treatment.

Conclusions

Uterine aspiration is a simple, harmless, and effective substitute for diagnostic curettage. It may be performed in the consulting-room, requires no anaesthesia, and avoids the necessity for confinement to bed.

The method is of value in the differential diagnosis of many varied conditions, including ectopic gestation, incomplete abortion, late post-partum haemorrhage, sterility, acute endometritis, etc. It is not, however, infallible, and its findings should always be correlated with the clinical signs and symptoms. Where carcinoma is suspected, curettage should be substituted.

It is probable that the main value of aspiration lies in the diagnosis of various disorders of endocrinal origin and in the control of their treatment by hormone therapy.

The fifteenth annual report of the Ella Sachs Plotz Foundation for the advancement of scientific investigation reveals that special favour is being shown to investigators who are working in the sciences bearing on medicine and surgery without reference to other fields. Thus Dr. H. Blaschko of Cambridge is continuing, with the aid of a grant, his study of the sympathomimetic drugs and the metabolism of amines, while Dr. A. Colin Campbell of Edinburgh has been tackling various problems connected with the cerebral circulation. Professor F. Bremer of Brussels has studied the acoustic responses of the cortex, and Dr. P. Ellinger of London the physiology of the kidney with special reference to the fate of phlorhizidine derivatives. Dr. I. J. Kligler in Jerusalem has been investigating the nature of the virus causing sand-fly fever. The effects of sexual hormones and of gonadectomy on other organs are being defined by Dr. V. Korenchevsky of the Lister Institute, London, and a simple hydrocarbon with a strong oestrogenic action has been isolated and investigated by Dr. A. Schönberg of Edinburgh. Applications for research grants for the year 1939–40 must reach Dr. J. C. Aub, Collis P. Huntington Memorial Hospital, Boston, Massachusetts, by the end of March. Letters asking for aid must state definitely the qualifications of the investigator, the nature of the proposed research, the size of the grant requested, and the specific use of the money to be spent.

DIRECT INGUINAL HERNIA

BY

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The purpose of this paper is to draw attention to a type of direct hernia which is occasionally seen and which receives no attention in the standard textbooks. The only description that I have come across is by Ogilvie (1937), who says:

"While any classification of types of direct hernia is unnecessary, it is advisable to point out that a rare variety, unmentioned in textbooks, is occasionally encountered in which the posterior wall of the inguinal canal medial to the deep epigastric artery shows a small circular deficiency with firm, almost tendinous margins, through which a tubular process of peritoneum, indistinguishable on clinical examination from an indirect hernia, escapes and often emerges through the external ring. Whether such a hernia is of congenital origin, due to some trauma, or caused by a localized extraperitoneal lipoma which weakens the fibrous sheet at one spot, is undetermined."

Before reading this article I had observed independently such a hernia in a young man, and I was stimulated to keep a careful watch for others. I was rewarded, for later I had the good fortune to operate on a patient in whom not only was this type of hernia present but it had actually strangulated, producing a Richter's hernia. In a personal series of eighty herniae there have been three of this type,* and their case histories follow.

Case Reports

Case 1.—A man aged 26 was admitted in September, 1936, having had a hernia for four months. Clinically he had an indirect inguinal hernia. At operation no sac was found under the coverings of the cord; instead, there was a sac medial to the deep epigastric artery, protruding through a small circular hole in the transversalis fascia. This hole would only admit the tip of the index finger, and had a well-defined fibrous edge. The sac was about three inches long, and part of its medial wall was formed by bladder. The peritoneum stripped with ease from the bladder, and was transfixed and ligatured after returning the bladder to the abdomen. The deficiency in the transversalis fascia was closed with catgut and the inguinal canal repaired behind the cord with strips of external oblique aponeurosis. Recovery was uninterrupted.

Case 2.—A man aged 59 was admitted in March, 1937, with a strangulated hernia of six hours' duration. He had had a hernia for some time previously, and on clinical grounds seemed to have a small strangulated indirect inguinal hernia. Immediate operation was performed, and on opening the inguinal canal a sac was seen appearing above the cord from the posterior wall of the inguinal canal. It was recognized that the condition was the same as that in Case 1, and, indeed, the appearances were exactly similar, except that bladder did not form part of the sac wall. The sac contained a small knuckle of half the circumference of the ileum, being a Richter's hernia, and since it was viable the gut was returned to the abdomen. A small opening was present in the transversalis fascia, and after removing the sac this was repaired with catgut. No repair of the inguinal canal was made. Uninterrupted recovery followed.

Case 3.—A man aged 40 was admitted in September, 1938. His history was interesting. Fifteen years ago he was operated on for a left indirect inguinal hernia. There was no recurrence. Two years ago a right inguinal hernia was operated on at another hospital, and this recurred within six months. On admission he had what appeared to be a recurrent

* Since writing this article I have operated on a female with a hernia exactly similar to those described here.

indirect inguinal hernia. At operation the condition conformed in every way to that in Case 1, and it was treated in the same manner, except that silk was used to repair the hole in the transversalis fascia, and a silk darning repair made of the inguinal canal. His recovery was uninterrupted.

A diagrammatic drawing of the condition described. No attempt has been made to illustrate the bladder that forms part of the medial wall of the sac. The epigastric vessels are exaggerated in size and clarity in order to point out their relation to the sac.

Discussion

The facts that emerge from a study of these cases are important, and raise points of interest with regard to their anatomy, the type of sac, and their treatment.

In the common type of direct hernia nothing more is usually found than a diffuse bulge of the posterior wall of the inguinal canal, often emerging through the external ring, but possessing no definite peritoneal sac and rarely if ever strangulating. The aetiology is usually quite clear, and represents a weakness of the muscles in that region, often due to advancing age, and occasionally secondary to bowel or urinary obstruction. In the rare type described here the inguinal canal is normal in all respects except for a localized opening in the transversalis fascia with quite definite edges, and in the cases reported would not admit more than the tip of the index finger. As Ogilvie points out, the aetiology of this condition is not clear, and from a study of so few cases it is impossible even to hazard a guess, but it seems certain that the peritoneal sac has arisen secondarily to the hole in the transversalis fascia. In two cases bladder formed a considerable part of the sac, and in one case actual strangulation had occurred. In all cases a definite tubular peritoneal sac was found which had to be dissected from its surroundings and ligatured as in an indirect hernia. Furthermore, they were all diagnosed as indirect herniae before operation; and, indeed, they are indistinguishable.

With regard to treatment, it is important to recognize this type of hernia, which can only be done at operation. The significance of this is borne out by Case 3, for it is possible that the true state of affairs was not recognized at the original operation, and that the diagnosed indirect hernia was really the direct one found at the second operation.

The bladder often forms a part of the sac and must, if possible, be stripped off from it. More important, though, is the repair. It is apparent that, whatever type of repair is done on the inguinal canal, unless a direct attack is made on the opening in the transversalis fascia recurrence is apt to occur. In my own particular cases the opening was closed with catgut in two, and silk in the third. In the case which was strangulated no repair of the

inguinal canal was made, but a full repair was effected in the other two, using silk in one and strips of external oblique aponeurosis in the other. None has recurred.

My thanks are due to Mr. Lancelot Bromley for permission to publish the notes of Cases 1 and 2. Case 3 was admitted under Mr. W. H. Ogilvie, and I am also indebted to him for suggesting the publication of this article and for his help and criticism.

REFERENCE

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THE TRANSMISSION OF SYPHILIS BY BLOOD TRANSFUSION

BY

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In view of the rapidly increasing frequency of blood transfusion as a therapeutic measure in a widening variety of conditions, a recent experience has convinced me that it would not be untimely to draw attention to the attendant risk of transmission of syphilis by blood transfusion, even when all ordinary precautions such as clinical and serological investigation of the donor have been scrupulously carried out.

Historical Survey

The view that syphilis is transmissible by blood transfusion has long been accepted, chiefly on the basis of animal experiments. A review of the literature also indicates that well-authenticated examples of transmission in man have been fairly frequently recorded, there being some seventy cases since the first description by Fordyce in 1915. It is curious, however, that no cases have been hitherto reported in Britain. Several analyses of cases of syphilis following transfusion of blood by American and Continental workers (Morgan, 1935; Klauder and Butterworth, 1937; and others) show that almost all the infections occurred when the donors were in the primary or secondary stage of the disease. Indeed, McNamara (1925), from his own experience, goes so far as to state that infection during the tertiary stages does not occur even though the Wassermann reaction of the blood is positive.

From these observations one would conclude that with ordinary precautions in the way of clinical and serological examination of the donors the risk of infection could easily be avoided. Unfortunately this is not so: undoubted infection has been recorded with blood from donors who were in the pre-chancere stage, and to this fact I wish particularly to draw attention. An analysis of available published histories reveals that in at least two instances infection was transmitted from donors in the incubation stage before the primary sore had appeared, and I now add a third case in which the facts are established beyond dispute. There have been several others in which the history was suggestive but the evidence was incomplete (Brem, 1923; Levy and Ginsburg, 1927; Feldman, 1928; and Dufour, 1929).

Cases of Transfusion Syphilis

The following are the fully authenticated cases:

CASE 1 (POST AND COONEY, 1933)

A girl aged 14 was admitted to hospital with a grave septicaemia arising from a furuncle on the lip. Blood culture