was no evidence of a uveitis or any abnormal physical signs in the heart, lungs, abdomen, and lymphatic or central nervous systems.

Investigations.—Haemoglobin 92% (13.7 g./100 ml.); W.B.C. 7,000/c.mm. (polymorphs 53%, lymphocytes 35%, monocytes 6%, eosinophils 6%); E.S.R. 20 mm. at 1 hour. Mid-stream specimen of urine showed a trace of albumin and occasional pus cells. Serum proteins 8.6 g./100 ml., with moderate hypergammaglobulinaemia on paper electrophoresis. Plasma urea and electrolytes, serum calcium, inorganic phosphorus and flocculation tests, 24-hour urinary calcium, E.C.G., and x-ray film of hands were all normal. Chest x-ray picture was unchanged from that of September 15. Her sputum proved negative for tubercle bacilli. Sarcoidosis was confirmed by liver biopsy, which showed "several nodules composed of epithelioid cells with a sprinkling of lymphocytes and a very few polymorphs" (Dr. J. F. Smith).

Prednisone was given because of her severe systemic illness, with an excellent clinical response, and two days after the start of the steroid therapy her Mantoux reaction was found to be positive at 1/100 (100 T.U.).

After discharge she has remained well on a maintenance dose of prednisone, apart from a chest infection which cleared up on antibiotics. Her latest chest x-ray picture (May 15, 1962) showed some resolution of the hilar glands.

Complications have not been noted in other patients given the particular batches of B.C.G.

DISCUSSION

The theory of the aetiology of sarcoidosis resulting from *Mycobacterium tuberculosis* and other agents is basically immunological. It has been suggested that there is an abnormally efficient production of classical circulating antibody, with a poor development of antibody-carrying cells responsible for tuberculin skin sensitivity and other manifestations of hypersensitivity (Burnet, 1959). This altered state is thought to be responsible, in the face of the antigenic stimulus of *M. tuberculosis*, etc., for the peculiar tissue changes of sarcoidosis.

The clinical history in the above case seems readily explicable in terms of this hypothesis. In the first place we have the patient's failure to develop tuberculin skin sensitivity after the first B.C.G. She certainly had some slight sensitivity, as shown by her accelerated response to B.C.G. and a positive reaction to 100 T.U. shortly after the start of steroid therapy. However, failure to develop skin sensitivity to 10 T.U. occurs in less than 1% of apparent normals after B.C.G. (Heaf and Rusby, 1959). That this preceded the development of sarcoidosis is strongly suggested by the normal chest x-ray picture one month earlier and her entirely normal health for five months before the onset of a particularly acute form of the disease. In the second place, the development of symptoms shortly after the second dose of B.C.G. closely mirrors the response of the level of circulating antibodies to a second dose of injected antigen.

The reduction, in sarcoidosis, of tuberculin-like skin sensitivity to a wide variety of antigens is well established (Sones and Israel, 1954). Although this state is not specific for sarcoidosis, occurring as it does in Hodgkin's disease (Schier, 1954), observations of Fairley and Matthias (1960) suggest that the mechanism of suppression of skin sensitivity in sarcoidosis differs from that in the reticuloses, where it is presumed to be secondary to involvement of the reticuloendothelial system. Citron and Scadding (1957) have also adduced evidence that loss of tuberculin skin sensitivity in sarcoidosis is not due to the disease process, and thus, preceding it, may be of aetiological significance.

The evidence for an abnormally efficient production of classical circulating antibody in sarcoidosis is less persuasive. However, Sands *et al.* (1955), using 1 ml. of "mismatched" blood by injection as an antigenic stimulus, showed significantly higher isoagglutinin titres in cases of sarcoidosis compared with various control groups.

The failure to find increased titres of antibodies against *M. tuberculosis* in sarcoidosis (Carnes and Raffel, 1949; Fleming *et al.*, 1951) is of limited significance in view of the doubt about whether the relevant antigen of the complicated antigenic structure of the living mycobacterium has been used. More recently, however, Chapman (1961a, 1961b) has found a high incidence of antibodies against the anonymous mycobacteria in a largely American group of patients. This may prove a most important observation, relating sarcoidosis to yet other mycobacteria.

My thanks are due to Dr. P. J. D. Heaf, under whose care the patient was admitted, and to Dr. J. M. K. Marsh for details of the patient's B.C.G. vaccination.

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Uterus Didelphys with Unilateral Haematocolpos

Congenital uterine abnormalities, while relatively rare and often of such a minor degree as to cause no symptoms, can occasionally produce effects whose origin is not easily established. The case described is of interest on account of its unusual nature and the difficulties encountered before an accurate diagnosis was made.

CASE REPORT

A girl aged 18 was referred to the out-patient department at Drumcondra Hospital on July 11, 1960, on account of abdominal swelling. She had noticed this for about three years, being conscious that it "prevented her from having as good a figure as she wanted" but caused no other symptoms. Since the menarche at the age of 13 menstruation had been regular (7/28) until December, 1959. From that date irregularity had developed, periods occurring as follows: nil in January, 1960; normal in February; absent in March and April; normal in May; absent in June and July. A negative pregnancy test report accompanied the referring doctor's letter.

The patient was an attractive young woman, whose apprehension was initially misinterpreted; for a cystic lower-abdominal swelling resembling a 20-week pregnancy was palpable and vaginal examination caused minimal discomfort. No bluing or ballotement was, however, noted, while breast signs were inconclusive.

A further pregnancy test and an x-ray examination of the lower abdomen were requested, the latter in the belief that foetal parts would be visible. The urine test proved negative, while the radiologist (Dr. E. G. Redman) reported "no present evidence of calcification in the pelvis."

The patient went on holiday and was next seen on August 15. She then stated that a normal menstrual period had occurred in the meantime but the swelling was noticeably larger, being now almost at umbilical level. An ovarian cyst lying somewhat more to the right than to the left of the midline was considered the likely diagnosis and she was advised to come into hospital for examination under anaesthesia and laparotomy.

Under general anaesthesia on August 22 bimanual examination caused revision of the diagnosis. For at the upper pole of the swelling foetal parts were thought to be palpable, while bulging of the right antero-lateral vaginal wall was an additional confusing feature, and auscultation of the abdomen gave the impression that foetal heart sounds could be heard. In the belief that pregnancy did in fact exist, despite the negative diagnostic aids, the patient was returned to the ward and a further radiological examination requested. The subsequent report read: "No evidence of calcification in soft tissue . . . the right kidney is not outlined . . . ? slight fullness on the right side of the true pelvis."

Intravenous pyelography confirmed the absence of the right kidney but provided no further information regarding the nature of the abdominal or vaginal-wall swellings. After consultation with a gynaecological and a urological colleague exploratory laparotomy was considered the best way of

solving the problem. This took place on August 27 and the intra-abdominal findings are represented by Fig. 1. Aspiration of the subuterine swelling confirmed the then obvious belief that this was a massive haematocolpos, while incision and subsequent partial excision of the bulging vaginal wall immediately removed any remaining doubts about the diagnosis. Many pints of long-retained menstrual fluid poured away, while, before closing the abdomen, palpation of the renal areas confirmed the radiological evidence of congenital absence of the right kidney. Bimanual findings on completion of the operation are shown diagrammatically in Fig. 2. Convalescence proved uneventful, drainage of menstrual fluid gradually diminishing during the two weeks that elapsed before the patient left hospital with a figure she had long desired.

Some two months after laparotomy she returned for hysterosalpingography so that a permanent record might be made available for reference if required in the future.

But technical difficulties were encountered on the right side, where the cervix lay flush with the vaginal vault and could not be grasped with a pair of bullet forceps. It was not possible to pass a sound through the cervical canal in the absence of counterpressure, although the left side presented no difficulty. In the belief that it was unwise to persist and that the pressure of many pints of fluid previously contained in the haematocolpos had contributed to the flattening and inaccessibility of the cervix, radiography was deferred until time might help to resolve the problem. By April 19, 1961, the cervix had developed a prominence sufficient to facilitate hysterosalpingography, the result of which is seen in Fig. 3.

FIG. 3.—Hysterosalpingogram.

COMMENT

This case of uterus didelphys with double vagina and unilateral haematocolpos is a very rare type of congenital anomaly.

Provided the uterus is present many abnormalities of the corpus, cervix, and upper four-fifths of the vagina are possible, each of which follows failure of Müllerian duct development or failure of fusion in varying degree. Abnormalities found in the lower fifth of the vagina arise, however, from a different source. For this part of the genital tract develops from the sino-vaginal bulbs, a proliferation of urogenital sinus tissue, which normally become canalized before joining with the lower end of the Müllerian ducts to allow their communication with the skin surface.

In this case fusion failed throughout the length of the Müllerian ducts. This may not cause much difficulty in diagnosis, but in association with a blind ending to one-half of a septate vagina much confusion can arise, as will be appreciated from this case report.

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FIG. 1.—Diagrammatic representation of intra-abdominal findings. A = Umbilicus. B = Symphysis pubis.

FIG. 2.—Bimanual findings on completion of operation. A: Source of abdominal and vaginal swelling. B: Portion of septum excised.

The chief medical officer of the Victorian Hospitals and Charities Commission, Dr. E. Wilder, has flown to London to see if he can find British doctors willing to migrate to Victorian country districts. At least three hospitals in Western Victoria are without resident doctors. Many other rural areas also need doctors. (*Radio Australia News*, February 11.)