

of Obstetrics and Gynaecology, Oxford. The labour ward sisters and nursing staff have at all times been most helpful and co-operative. Mr. D. J. Finney, of the Lectureship in Design and Analysis of Scientific Experiment, University of Oxford, kindly provided assistance with some statistical problems.

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Medical Memoranda

Vulvovaginitis in a Child due to *Shigella flexneri*

It has been pointed out by various writers that organisms other than the gonococcus may give rise to vulvovaginitis in children. Haemolytic streptococci, staphylococci, and possibly Petit's bacillus have been found to be responsible for the condition (Topley and Wilson, 1946—referring to Hardy, 1941, and Osmond, 1944), and it is generally held that diagnosis of gonorrhoeal infection in children should never be made unless the gonococcus is demonstrated by cultural methods. The following case affords further evidence in support of this view.

CLINICAL HISTORY

A girl aged 7 was brought to hospital by her mother, who was worried because the child had a copious vaginal discharge for 24 hours. She was normally under the care of an African nursemaid.

Examination revealed a very heavy vaginal discharge of thick creamy pus. There was a moderate inflammatory reaction in the vulvar region. Vaginal swabs and smears were obtained, and, in view of the severity of the condition and the presence of Gram-negative diplococci in the stained direct smear, intensive treatment with penicillin was instituted. After 72 hours' treatment there seemed to be no marked improvement. Further laboratory investigations (see below) indicated a more specific line of treatment, and sulphaguanidine was given orally and sulphaguanidine powder by vaginal insufflation. The discharge ceased within 48 hours from the beginning of this therapy. Up to one month after leaving hospital there was no sign of recurrence of the discharge.

LABORATORY INVESTIGATION

The smear sent to the laboratory was stained by Gram's method and showed very numerous polymorphonuclear cells and some Gram-negative intracellular organisms, coccal in shape, occurring in small groups and arranged in pairs within these groups. As the child had an African nursemaid gonococcal infection was thought to be not unlikely, and cultural examination for the gonococcus was decided upon.

Two swabs were sent for examination, the second because of some delay which occurred between the taking and the arrival at the laboratory of the first. Both swabs were plated on blood agar and incubated at 37° C. in an atmosphere of approximately 10% carbon dioxide. The plates were examined after

24 hours' incubation. The blood agar inoculated with the first swab showed a few colonies of *Staphylococcus albus* and a few greyish, circular, low convex colonies, about 1 mm. in diameter, which were suggestive in appearance of a coliform type of organism. The blood agar inoculated with the second swab gave a heavy growth of the greyish colony in pure culture. Both plates were incubated for a further 24 hours, but no other colonies developed.

Films made of the colonies from both plates showed a Gram-negative cocco-bacillus about 1 μ in length and 0.5 μ in width. One colony from each plate was subcultured on agar slopes and, after incubation at 37° C., inoculated into tubes of lactose, glucose, mannitol, dulcitol, sucrose, and peptone water. In each case acid was formed in glucose and mannitol; there was no change in lactose, dulcitol, or sucrose; indole was not produced and the organism was non-motile.

Slide agglutination tests performed with polyvalent Flexner I and polyvalent Flexner II sera showed agglutination with the former only. Suspensions of the organism were prepared, using mercuric iodide and potassium iodide in buffered formol-saline, and tested for agglutination in tube against polyvalent Flexner I and the individual sera making up polyvalent Flexner I. *Sh. flexneri* V, W, and Z. There was agglutination to a dilution of 1 in 250 with polyvalent Flexner I and *Sh. flexneri* W; *Sh. flexneri* V showed agglutination to 1 in 25, but agglutination was not observed with *Sh. flexneri* Z.

Inquiries elicited that the girl had diarrhoea some seven days previous to the onset of the vulvovaginitis. No one else in the family or any of the African house-servants admitted to having had diarrhoea or dysentery, so it was decided to examine specimens of faeces and rectal swabs from the child over the next 14 days. The first stool was fluid, but macroscopically no blood was seen, though microscopically red blood cells were observed together with abundant pus cells. Later specimens were more formed, and the pus cells and erythrocytes were considerably reduced in number. The swabs and faeces were inoculated on desoxycholate-citrate agar (Hynes's modification) but *Sh. flexneri* was not isolated.

In view of the findings of the direct examination, however, there was strong presumptive evidence of a bacillary dysentery infection, and the inability to isolate the organism from specimens of faeces might be accounted for by the fact that the patient was being treated with sulphaguanidine.

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Herpes Zoster Provoked by Smallpox Vaccination

In view of the correspondence on the subject of herpes zoster since the day that Bókai (1892) first noted the clinical association of the condition with varicella, the following case may be of interest.

CASE REPORT

A Chinese man aged 22, who had previously been vaccinated successfully on two occasions, was again vaccinated on November 12, 1949. This was successful, producing a small reaction in the skin over the right deltoid muscle. On November 22 he complained of pain in the right arm and the right side of the neck. A skin eruption began on the arm on the following day, and he was admitted under my care on the 25th, when he had an obvious and extensive herpes zoster from the root of the neck down the outer aspect of the right arm to the thumb. He also had widespread varicella-like discrete lesions on the trunk and face (herpes generalisatus). The dry crust of his

recent vaccination was still present, and separated normally on November 27. The course of the illness was uneventful, and he was discharged about ten days after admission.

COMMENT

This case may be an example of the activation of a latent virus disease by another virus disease. A similar sequence of events has previously been reported. The Committee on Vaccination in London (1928) suggested that vaccination may precipitate encephalitis in persons harbouring the latter virus. Levaditi and Nicolau (1926) noted that the injection of the rabies virus in rabbits produced death from latent neurovaccinia. Madonick (1946) reported a case of herpes zoster in which vaccination (in a patient twice previously vaccinated) provoked encephalitis. The herpes began on October 26, vaccination was performed on October 30, and encephalitis developed on November 7.

In Singapore herpes zoster seems to be more common and less severe than in the U.K. The above case was the most severe I have seen on the island. Vaccination of the skin served by the fifth sensory root provoked a subsequent severe herpes involving particularly the fifth and sixth roots on the same side. This case seems to be of importance as illustrating that there are dangers attached to smallpox vaccination, and possibly to autovaccination of vesicle fluid, as a therapeutic measure in cases of herpes zoster and herpes simplex.

I wish to thank Brigadier J. T. Collins, D.M.S., F.E.L.F., and Colonel C. P. Chambers, O.C., B.M.H., Singapore, for permission to publish.

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Torsion of the Gall-Bladder

Torsion of the gall-bladder is a rare condition, fewer than 80 cases having been reported in the literature. No recorded case has been diagnosed correctly pre-operatively in spite of the well-known and classical paper by Rendle Short and Paul (1934), which describes the symptomatology with great clarity and points out that a pre-operative diagnosis should be possible. The importance of making the diagnosis lies in the facts that the operation for cure is extremely simple and quick; that pre-operative treatment can be reduced to a minimum; that recovery is uneventful; while the mortality rate is directly reciprocal with the delay in operating. In the age group in which most of these cases occur—that is, 60–80—both doctor and particularly patient wish to avoid operation wherever possible, and the delay has usually arisen through giving expectant treatment on a diagnosis of acute cholecystitis.

If, however, the condition is borne in mind, the necessity for operation, together with its ease and rapidity of performance, can be plainly expressed to the patient, and the mortality rate should fall considerably from the 16% estimated by Smith (1936).

CASE REPORT

The patient, a woman aged 77, was admitted to Southmead Hospital, Bristol, on September 27, 1949. Four days previously she had had an attack of acute abdominal pain which was very

severe. Retching occurred but there was no vomiting. Her bowels had not been opened for three days, but an enema gave a good result. Her temperature was 97.4° F. (36.3° C.) and a swelling which was tender was felt on the right side below the umbilicus. The next day the abdomen was less distended and an enema produced only flatus + + +. The following day there was no vomiting but the patient still complained of pain in her right side. An enema gave a good result. This state continued throughout the following 24 hours, but the swelling was becoming more tender. She was admitted to hospital four days after the onset of pain.

On admission she was seen to be a very frail old lady in severe pain. Her temperature was 98.4° F. (36.9° C.). Her tongue was dry; heart and lungs N.A.D. There was no jaundice. The abdomen was distended and tympanic. A hard swelling which was extremely tender but quite mobile was present in the right iliac fossa. The extreme tenderness made full examination difficult. A doubtful provisional diagnosis of twisted ovarian cyst was made, but it was evident that there was some mischief in the abdomen which required laparotomy.

Operation.—Through a paramedian incision the gall-bladder presented itself wrapped in the omentum, black, distended to the size of a pear, and with a few green spots of incipient perforation. It was twisted in a clockwise direction through three complete turns around its oedematous pedicle of cystic duct and artery. Its removal was extremely simple, but the cystic artery was so arteriosclerotic that the first ligature did not occlude it. There were no stones. Convalescence was uneventful.

COMMENT

This case was misleading in that the swelling itself was so low in the abdomen: otherwise the fluctuating course of the illness, and a mobile tender lump in a frail old lady, should have enabled a correct diagnosis to be made.

Since Rendle Short and Paul's paper the balance between clockwise and anticlockwise rotation has been levelled, and to date the ratio is about 50–50. The clockwise rotation is attributed to peristalsis in the stomach (Barber, 1939), while the anticlockwise is due to colonic movements. This is a plausible theory, but does not explain why a gall-bladder lying with a free pedicle and exposed to these movements for upwards of 60 years should suddenly rotate. In my case the cystic artery which entered the pedicle above the cystic duct was a true bill "pipe-stem" artery and acted as a strut around which the pedicle must revolve, as any to-and-fro movement was impeded. The condition of the arteries has not previously been noted, but some arteriosclerotic change could be expected in the general age group, and the position of such an artery in relation to the duct might explain the direction of rotation.

The lower age limit has, however, fallen to 5 years (Cuervo, 1939), but it is easier to understand such congenital anomalies causing trouble in the first decades. In the case quoted by Berry (1939) there was a rough vehicular ride to initiate the process. In Gowland's (1946) case the attacks had been repeated over many years.

I wish to express my thanks to Dr. Phillips, medical superintendent at Southmead Hospital, for permission to publish this case.

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There are 86,876 dentists in the United States, one for every 1,733 persons, according to the American Dental Association.