skigram of the abdomen was omitted. This proved unfortunate, as an interesting pneumogram of the gall-bladder might have been obtained.

Operation.—Under spinal analgesia the abdomen was opened by a right paramedian incision. The peritoneal cavity contained a considerable quantity of foul-smelling thin brown fluid, quite unlike the usual turbid effusion of spreading peritonitis. The gall-bladder was lightly sealed off by omentum, but on exposure was found to be grossly distended, oedematous, and haemorrhagic, the greater part of the fundus being frankly gangrenous. An attempt to aspirate the contents of the gall-bladder with a syringe yielded nothing but gas, and the distended organ immediately collapsed. Two small stones could be felt in the cystic duct, but below this the duct was healthy and of very small calibre, so that cholecystectomy was easily performed. The common bile duct was apparently normal and was not opened. The wound was closed in the usual way with a drainage-tube to the gall-bladder bed.

On examination the gall-bladder contained practically no fluid. The whole mucous membrane was necrotic, shaggy, and of a dark-brown colour. Two small calculi impacted in the cystic duct sharply limited the inflammatory process. No other stones were present. Cultures of the mucous membrane of the gall-bladder yielded a pure profuse growth of *Cl. welchii*.

Progress.—The patient was given 20,000 units of polyvalent anti-gas-gangrene serum intramuscularly at the close of the operation, and during the first three post-operative days he received a total of 20 g. of sulphapyridine. His condition remained critical for the first few days. The abdomen became very distended, and brown discoloration of the skin, characteristic of clostridial infection, gradually spread from the wound over the anterior abdominal wall. No gangrene developed, however, and both distension and staining gradually subsided. The drainage-tube was shortened after 48 hours and removed at the end of a week. Profuse purulent discharge from the track persisted for several days, after which convalescence was uneventful.

Discussion

It is now well recognized that anaerobic bacilli frequently gain access to the biliary tract. Fulminating gas gangrene of the liver, following cholecystectomy, occasionally provides an unwelcome reminder of their presence. Gordon-Taylor and Whitby (1930), using anaerobic cultures, recovered *Cl. welchii* from the gall-bladder in nearly 9% of a series of 50 consecutive cholecystectomy specimens. They also found the organisms in 13% of the gall-stones obtained post mortem. Nevertheless, gangrenous cholecystitis due to *Cl. welchii* is seldom encountered, and detailed clinical accounts of frankly gangrenous gall-bladders are very rare indeed. Vest (1933), reviewing the role of clostridia in cholecystitis, found only five such cases in the literature. Gordon-Taylor and Whitby mentioned two others, while Simon (1932) reported an interesting case in which the diagnosis was made radiologically before operation, the shadow of the gas-filled gall-bladder being clearly visible.

On the assumption that bacterial infection is the primary factor in cholecystitis and gall-stone formation, discussions of *Cl. welchii* infection in the past have been focused on the question whether these organisms are the primary cause of the disease or mere secondary invaders. But the infective theory of gall-stone formation has recently been challenged, and there is now a growing body of opinion, strongly supported by surgical experience, that bacterial infection of the gall-bladder is nearly always a secondary phenomenon, determined by the effects of gall-stones. This sequence of events is probably true of most cases, but is particularly well shown in acute cholecystitis. This disease usually begins with an attack of gall-stone colic, but, should the stone become firmly impacted, the resulting congestion and oedema of the gall-bladder, together with stasis of its contents, soon prepare the field for infection by intestinal organisms. Such we believe to have been the sequence of events in the case here recorded. The initial obstruction of the gall-bladder by stone, and its subsequent invasion by this grave disease, seem to be clearly reflected in the clinical features of the case.

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Medical Memoranda

A Case of Concurrent Herpes Zoster and Varicella

The following report of a case in an elderly man seems worthy of record.

A well-preserved man aged 70 was admitted on Nov. 20, 1945, with a vesicular eruption limited to the area supplied by the right supraorbital nerve. The early history was vague, but the eruption had appeared on Nov. 17. Some of the vesicles were confluent and rapidly became haemorrhagic. On Nov. 23 he ran a temperature of 99.2° F. (37.3° C.), and next day there appeared a typical varicella eruption of a very discrete type covering the body and limbs. He has never had chickenpox, so far as he knows, nor has he recently been in contact with it or with herpes zoster.

Up to the time of writing the varicella has progressed satisfactorily, there now remaining only a few dried-up vesicles. Unfortunately the herpes zoster became infected, though it is now steadily healing.

Similar cases have been reported. J. J. Manning (1944) attended a man of 63 years with both conditions strictly concurrent, and Rose (1944) a man aged 81, the varicella developing one week after the herpes zoster. In Norman Flower's (1944) case in a man aged 40 varicella followed 11 days later. Dr. Alexander (1944) reports a case similar to my own, the varicella developing some 48 hours later; and Dr. Mary Barrow (1944) records one in which the varicella was some five days in appearing. Lastly, Dr. Simon (1944) reported a case in a man aged 63, with varicella developing five days later.

All the cases referred to were in males in the region of 60 or over, with the exception of Dr. Flower's case. The interval between the development of the herpes zoster and the appearance of the varicella varies from 48 hours to 1 week. In one case only was there a possible history of contact, but the histories in every instance were not complete.

One other case of interest was reported in the same period—namely, that of Dr. Allen (1944), the case being that of a boy aged 5½. Here the varicella preceded the herpetic eruption some three weeks.

I wish to thank Dr. J. Grant, M.O.H., Gateshead, for seeing the case and for permission to publish.

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A Case of Secondary Abdominal Pregnancy

The following case history of a somewhat rare condition may prove of interest.

CASE HISTORY

A rather slim Mongo (Bantu) negress, aged about 30, of average height, was admitted to our bush hospital on Sept. 28, 1945. She had attended three months previously and was diagnosed as being five months pregnant, but no vaginal examination had been made. It was her first pregnancy. She was admitted to the labour ward by the head orderly about midday and said that "pains" had started the previous day. At 5 p.m. the orderly reported the case and said there was no progress. She was seen shortly after that time by me.

On examination the pulse was 112, of fairly good volume, and the patient, though not distressed, seemed to be in pain. There were no contractions. Heart and lungs were normal. The abdomen was enlarged to the size of an eight-months pregnancy. The foetal parts were very superficial and the outline of a bone (probably the right tibia) could be distinctly felt through the abdominal wall above and to the left of the umbilicus. There was a curious "tenseness" about the abdomen—not that associated with uterine contractions, but rather like a large fairly soft ovarian cyst. The child was lying obliquely with the back to the right and the head in the left iliac fossa. No foetal heart sounds could be heard and no souffle. Patient affirmed that there had been quite violent movements during the day. Per vaginam, there was no cervical dilatation and the characteristic softening associated with advanced pregnancy was almost completely absent. There was no haemorrhage or macroscopic discharge. Secondary abdominal pregnancy was suspected.

Operation.—At 6.30 p.m. spinal analgesia (stovaine) was given, supplemented after three-quarters of an hour by open ether. On opening the abdomen by a right paramedian incision the greenish amniotic sac was immediately apparent; it was slightly adherent to the parietes. The sac was incised; the quantity of fluid was rather less than usual. The child, a male, was extracted, and it made a few feeble movements. It weighed 2.3 kg. (just over 5 lb.). The head was flattened from side to side and especially in the right parietal

The Ministry of Education has sent to local education authorities a memorandum (No. 156, May 27, 1946) on the administration of Section 54 of the Education Act, 1944, which deals with power to ensure cleanliness in schools and school-children.

region, which had rested on the left ilium. The membranes were stripped as far as the placental edge. The placenta filled the right iliac fossa and was adherent to two loops of small gut, the top of the uterus, and several other structures. Anatomical relations were difficult to determine—e.g., the right ovary was not seen at all. There was a liberal blood supply from the omentum and also from the left ovarian vessels. Although the placental mass was slightly mobile it was with considerable apprehension that we began its removal. The ovarian vessels were first ligated; then two fingers could be passed—one in front of and the other behind the fundus of the uterus; these controlled the large vessels therein while a wedge-shaped resection was performed. The placenta was then peeled off from its remaining attachments and about 20 bleeding points ligated, the rest being controlled by hot swabs. The haemorrhage, though considerable, was not alarming. The abdomen was closed and drainage provided. There was considerable sero-sanguineous discharge for 24 hours, after which time the tube was removed. A five-day course of sulphathiazole was started. The white staff of two had to leave on the third day after the operation, but on return 14 days later they found that the patient had made a good recovery. There is a palpable mass in the right iliac fossa, presumably organizing blood-clot, but she feels well and does not complain of pain.

COMMENT

This is the second case of this rather rare condition observed here within the last five years. The first was published in the *Journal of Obstetrics and Gynaecology of the British Empire* in August, 1942. Our hospital serves at the most some 50,000 people. The number of pregnant women seen here per year rarely exceeds 200. Ectopic cases are rare—not more than two a year. The last case—March, 1945—was of ectopic twins, of 4 months. One amniotic sac was already ruptured and the foetus dead; the other sac was intact and contained a live foetus. Unfortunately we lost this case. To have two cases of secondary abdominal pregnancy in such a limited area and in such a short time is at least remarkable. The question seems naturally to arise as to whether the amniotic sac of the negress is more resistant to rupture than that of the European. The negress certainly has much less chance of getting an ectopic pregnancy diagnosed than has a European; so the African ectopic case must frequently either develop or die. There is a very high incidence of gonococcal infection amongst the Mongo tribe, which undoubtedly contributes to ectopic gestation.

Baringa/Maringa, Haut Congo Belge.

E. R. WIDE, M.D.

Cavernous Sinus Thrombosis treated with Penicillin

The following case may be of interest. An important feature is that the usual dosage of penicillin given (18,000 units 3-hourly) was found inadequate, and the dosage of 35,000 units 3-hourly was effective in treating the condition.

The patient, Mrs. B., walked into the casualty department at the Bristol Eye Hospital at 10 p.m. on Nov. 29, 1945, having been sent by her own doctor. She complained of swelling of both eyes and gave a history that one week before her admission she developed pains in the back and legs. "Sores" on her lips then appeared. Six days before admission her eyes became "swollen"; she consulted a doctor and was given drops to instil. On Nov. 25 the eyes became worse and the patient was given tablets to take. By the 29th there was no improvement, and she was sent to Bristol Eye Hospital.

On examination both eyes were found to be proptosed and the lids and conjunctivae inflamed and oedematous. The patient's temperature was 99° F. (37.2° C.), pulse 80, and respirations 20. Investigation of the fundi showed only that the veins were slightly engorged. Vision: right eye, 6/12; left eye, 6/6. Nothing abnormal was found in the heart, lungs, or kidneys. Blood pressure, 130/90. Urine: Specific gravity, 1002; reaction alkaline; N.A.D.

A diagnosis of cavernous sinus thrombosis was made, and systemic penicillin treatment was started intravenously 18,000 units 3-hourly. The patient was started on a course of sulphathiazole next day. Her condition remained stationary until Dec. 2, when there was a slight but definite improvement. Next day the improvement was more pronounced; there was less inflammation of the lids, and the eyes were less proptosed. On Dec. 5 the condition of the eyes was less favourable: both were proptosed to their original extent. On Dec. 6 penicillin was given in doses of 25,000 units 3-hourly for 24 hours, then 30,000 units 3-hourly for 24 hours, and finally 35,000 units 3-hourly until Dec. 11. The patient received in all 2½ million units of penicillin.

On Dec. 7 a marked improvement occurred, and by the 9th the eyes appeared normal and the temperature remained at a normal level, having previously fluctuated between 98° F. (36.7° C.) and 100° F. (37.8° C.). Steady improvement was maintained after this date, and uneventful recovery occurred, the patient being discharged on Dec. 22.

My thanks are due to Mr. E. R. Chambers for permission to publish the case and to Mr. J. Donaldson for his help on the question of penicillin dosage.

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Reviews

CLINICAL PARASITOLOGY

Clinical Parasitology. By Charles Franklin Craig, M.D., and Ernest Carroll Faust, Ph.D. Fourth edition. (Pp. 871; 305 engravings and 4 colour plates. 50s.) London: Henry Kimpton. 1945.

This is a most excellent book with which it is difficult to find any fault. In it the medical man will discover practically everything he needs to know about the animal parasites of man and much more besides. Everyone who has to deal with human disease caused by animal parasites and their vectors should possess a copy at his right hand. He will find that he is constantly consulting it, and will be rewarded by obtaining all the information he requires. The new fourth edition, which appears two years after the third, is larger by over a hundred pages. It has been thoroughly revised and much new information, the outcome of war experience, has been incorporated. Certain sections dealing with subjects of a general nature have been extended into separate chapters, as, for instance, that on scientific nomenclature, which now includes a digest of the international rules of nomenclature. Under malaria the new knowledge of the suppressive action of mepacrine is fully dealt with, while in the section on mosquito control the effectiveness of D.D.T. and of the new repellants which are products of the war is carefully considered. Much new information will be found in a considerably extended section devoted to arthropods responsible for human disease. Here all diseases, whether animal or not, are discussed in connexion with each individual transmitting agent. It is clear that the claim made that the fourth edition is thoroughly revised is amply justified, and it can be recommended as a comprehensive treatise on clinical parasitology.

SCIATICA AND INTERVERTEBRAL DISK LESIONS

Sciatiques et Lombalgies par Hernie Postérieure des Disques Intervertebraux. By D. Petit-Dutaillis and S. De Sèze. (Pp. 180; illustrated. 235 francs.) Paris: Masson et Cie. 1945.

The recognition in 1911 of the relation of injury of intervertebral disks to intraspinal pressure symptoms we owe to Middleton and Teacher in Scotland, and Goldthwaite in the United States. It was, however, more than twenty years before the full significance of intervertebral disk lesions as common causes for sciatica was appreciated, notably by Barr and Mixter in 1933. The extraordinary thing is that in the French literature in the intervening years there were numerous studies of the anatomy and pathology of the disks in relation to intraspinal lesions, but, as the present authors confess, they were largely in relation to what were regarded as tumours of the disk with particular reference to the cauda equina. Nevertheless Petit-Dutaillis himself with Alajouanine in 1930 were probably the first authors clearly to recognize that these "tumours" were in fact herniations of the intervertebral nucleus. Despite further large additions to the French literature it appears that not until 1940 was there any considerable writing on the surgery of these lesions in cases of sciatica, whereas in the same year Love in America had been able to report on 500 cases operated on within the previous seven years.

The present work provides a valuable review, more particularly of French work on this subject, with extremely well set out and illustrated sections on the pathological anatomy, radiology, diagnosis, and operative treatment. In radiology in France lipiodol appears still to be freely employed, contrary to the growing practice of American and British surgeons, who depend more on clinical analysis. In this book there is a striking lack of recognition of British work. The French neurosurgeons, like their colleagues in other countries, tend to dismiss very lightly the methods of conservative orthopaedics. The impression of the reviewer is that the indications for operative intervention need much closer narrowing down, and that few cases should be operated on without prior orthopaedic consultation and co-operation.