DISLOCATED SPLEEN WITH TORSION OF PEDICLE COMPLICATING PREGNANCY:

REMOVAL OF SPLEEN: DELIVERY AT TERM.

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I HAVE not seen any report of a case similar to the following, in which the enlarged dislocated spleen with twisted pedicle, complicating pregnancy at four months, was removed:

Mrs. B., aged 32, a school teacher, married four and a half years, was referred to me on December 26th, 1905, by her physician, Dr. Minshall of Brownsville, Ontario.

History.

From childhood she had never been robust. At the age of 15 years she was ill for a time with malaria, and at the age of 17 she had a mild attack of typhoid fever.

Her menstrual periods appeared at the age of 14 years, and previous to marriage were irregular, sometimes two and even three months intervening. After marriage they became more regular, occurring about every five weeks and lasting five or six days, with moderate loss and very little pain. Her last menstrual period occurred on September 7th, 1905, and was of the usual duration and other characters of previous periods, except that she suffered more pain, which she attributed to a cold from which she was suffering at the time.

On December 3rd, 1905, she was taken suddenly ill, with severe abdominal pain on the left side, attended with considerable fever. She was confined to bed, and morphine was required to relieve the pain. After a few days the temperature dropped to normal, and the sharp cutting pain subsided to a dull persistent aching. From this illness she was unable to leave her bed for two weeks.

Two years previously she was taken suddenly ill during the night with severe pain on the left side of the abdomen, which her physician said was in the left ovarian region, but this pain had disappeared by the following day. After this she was free from any abdominal discomfort for about one year. During the past year she had suffered at times from some pain in the same locality, and since some time during the past summer she thought she could feel a hardness on the left side, and this hardness had become more noticeable since her present acute illness.

Condition when First Seen.

She looked pale and thin, and complained of an aching pain on the left side of the abdomen, some distance below the ribs; appetite was poor, and the bowels had been constipated since her present acute illness, although usually they were inclined to be relaxed, particularly after any excitement. There had also been some frequency of urination recently but not previously. Her temperature and pulse were normal. She had not suffered from nausea or vomiting except occasionally after taking morphine for pain.

Examination of the abdomen revealed in the left iliac region an elongated tender lump, elastic but not fluctuating and dull on percussion. The lower extremity of this lump dipped down into the pelvis, and the upper extremity reached a point above and to the left side of the navel. It could be moved up and down, and from side to side slightly, but could not be brought over to the right of the median line. It was, however, too tender to bear much handling.

Examination of the vagina, uterus, and breasts gave all the usual signs of pregnancy, advanced to between three and four months. Bimanual examination showed the fundus of the enlarged uterus above the symphysis, and the lower extremity of the abdominal lump dipping down into the pelvis behind the left side of the enlarged fundus, very close to but apparently not connected with the uterus. The left ovary could not be palpated, and I was therefore inclined to think that the growth was probably a dermoid cyst of the left ovary complicating pregnancy.

Operation.

Operative intervention was advised, and on December 30th she went into St. Joseph's Hospital for that purpose.

On January 2nd, 1906, under chloroform anaesthesia, I made a median abdominal incision below the navel. On opening the peritoneum the enlarged pregnant uterus presented, and some clear serous fluid welled up from the pelvis. The abdominal lump to the left was of a dark purplish colour, and on examination was found to be an enlarged spleen, with its upper convex border directed forward and the lower notched border looking backward.

Both ovaries and tubes were found to be perfectly normal. The abdominal incision was extended upward to the left side of the navel, and the pedicle of the spleen was examined and found to be more than 2½ in. long, and at about 1 in. from the hilum was twisted upon itself from left to right for somewhat more than a half turn.

The veins on the splenic side of the twist were greatly enlarged, measuring fully ½ in. in diameter, and presented the appearance of a mass of large varicose veins almost on the

point of rupture. The splenic artery was also much larger than normal. At the hilum there was some thickening from inflammatory adhesions, and two or three enlarged glands. The vessels in the pedicle were ligated separately with silk, and the spleen removed.

The other abdominal organs were apparently normal. The long abdominal wound was carefully closed with running catgut in peritoneum, interrupted silkworm gut sutures down through walls to peritoneum, interrupted kangaroo tendon sutures in sheaths of recti muscles, and a running gut suture in skin. The patient became somewhat cyanosed just after the removal of the spleen, but soon recovered her normal colour.

After-History.

There was practically no shock, and her convalescence was uneventful. The abdominal wound healed throughout its entire length by first intention.

She left the hospital about four weeks after operation. The spleen after removal measured about 8 in. in length, 4 in. in breadth, and 2½ in. thick. It weighed 12 oz.

In a letter from Dr. Minshall on July 9th last, he says that after returning home the patient enjoyed good health; pregnancy progressed without further complication, and on June 18th, or just 283 days following the first day of her last menstrual period, she had a perfectly normal labour, giving birth to a well developed 7-lb. boy. Her puerperal convalescence was normal, and at the time of writing she was in good health.

From the symptoms complained of previous to operation and the condition of the veins in the pedicle found at operation, it is quite probable that, if left to itself, rupture of splenic vessels would have occurred with death from internal haemorrhage.

From the uneventful after-history in patients, where a dislocated or chronically-diseased spleen has been removed, it would seem that such spleens become functionless, other glands taking up the work, so that after removal of the organ the patient does not suffer from any special symptoms referable to the loss.

With regard to the diagnosis, I think with one experience one would not be likely to make a mistake in a second case; but, confronted for the first time with a case like the one reported—an enlarged pregnant uterus, with an elastic, tender tumour on the left side dipping down into the pelvis, and the patient just recovering from an acute attack of local peritonitis—an exact diagnosis before opening the abdomen would not be an easy matter.

A NOTE ON

HAFFKINE'S ANTIPLAGUE VACCINE.

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ON looking back at the results obtained by using Haffkine's vaccine in the epidemic of plague which occurred at Kirkee, India, in 1906, I feel that I ought to add my testimony to that already given in support of the very great value of this method, not only in reducing the incidence, but also the mortality, of the disease.

A trial was given to the new "curative" serum at the Poona Plague Hospital during the epidemic there in 1906. The serum, which was very costly, did not have any effect upon the mortality, which was at the rate of 65 per cent. amongst 1,700 cases treated. It is clear, then, that for the present we must rely upon a prophylactic serum until such time as a satisfactory curative serum is discovered.

At the commencement of the epidemic the population of Kirkee was estimated at 6,952 people. Of this number, 5,640 formed the civil element, while the remaining 1,312 were employed by the military authorities, constituting the followers with their wives and families. The two communities are separated from each other by a street which runs through the village. On one side are the followers' huts, on the other those of the "civilians." The followers have no shops in their part of the village, and make all their purchases in the bazaars of the civilians. They are almost to a man in the hands of the native moneylenders, and taken as a whole are in worse circumstances than the other inhabitants. Indeed, at the commencement of the epidemic I had several under treatment for famine fever. On the other hand, the sanitation of their huts is better than that of the civilians.

In the middle of August, 1906, plague was raging in Poona city, four and a half miles away; and at about this

time numbers of tree squirrels and rats were dying in Kirkee. On September 1st, 1906, the first case occurred in the bazaar. On September 5th it reached the lines of the followers; who, on the following day, were ordered to come up to hospital for inoculation with Haffkine's serum; out of 1,312 men, women, and children on the list, 1,300 presented themselves, and among them 5 subsequently developed plague, of whom 4 recovered and 1 died. Of the 12 uninoculated, 6 contracted the disease, of whom 3 recovered and 3 died. Among the civilian element inoculation was optional, and, for the most part, they did not seek medical advice if attacked. Out of 5,640 people, 45 volunteered for inoculation, and none of them contracted the disease. Of the remaining 5,595 (uninoculated), 383 subsequently suffered from plague, of whom 123 recovered and 260 died.

Influence of Haffkine's Serum upon the Incidence of Plague at Kirkee.

Comparison of the incidence amongst the uninoculated and the inoculated. The former give the epidemic incidence which might have been expected amongst the followers if they had not submitted to inoculation.

	Total Number.	Number Attacked by Plague.	Incidence per Cent.
Inhabitants who were not inoculated	5,595	383	6.8
Inhabitants who were inoculated with Haffkine's serum	1,300	5	0.35

Influence of Haffkine's Serum upon the Mortality of the Disease at Kirkee.

To estimate this three classes of cases must be considered :

1. The inoculated inhabitants who developed plague (and were subsequently treated in the followers' hospital).
2. The uninoculated inhabitants who developed plague (and were subsequently treated in the followers' hospital).
3. The uninoculated people who developed plague (not treated in hospital; majority treated by native doctors).

	Number.	Result.		Mortality per Cent.
		Recovered.	Died.	
Class 1.—Inoculated (treated in hospital) ...	5	4	1	20
Class 2.—Uninoculated (treated in hospital) ...	*12	7	4	41
Class 3.—Uninoculated (not treated in hospital)	383	123	260	66

* Includes 6 additional cases admitted from the ammunition factory at Kirkee.

The vaccine, consisting of a culture of the *B. pestis* killed by heat to which a minute quantity of carbolic acid had been added, was supplied by Government in sealed glass tubes. The dose, varying from $\frac{1}{2}$ c.cm. in the case of a strong man to 0.5 c.cm. for a child 10 days old, was given subcutaneously at one sitting, except in the case of women who were more than seven months pregnant, when it was divided into two halves, the second being given at a week's interval. Glass syringes were used, and were sterilized by the hot oil method. The needle was sterilized between each operation. The site chosen for the injection was the centre of the posterior surface of the upper arm. The arm was scrubbed with soap and water, after which carbolic 1 in 20 and finally spirit was used. The symptoms following the inoculation varied with different individuals; as a rule, within four hours there was pain and swelling locally and a slight rise of temperature. The symptoms subsided on an average in 30 hours. In some cases there was practically no reaction. In spite of the antiseptic precautions observed, six out of the series of 1,300 developed an abscess at the site of inoculation; they were treated in the ordinary way and all healed rapidly. There were no other untoward sequelae.

With regard to drug treatment, strychnine appears to be almost a specific for the disease.

A CASE OF CHLOROMA.*

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THE case described in these notes was shown in my absence to the Coventry Division of the British Medical Association by Dr. Harman Brown, on January 21st, 1907, and on February 19th I was able to show the Division the *post-mortem* specimens and read the full notes.

L. C., female, aged 11, was admitted to the Coventry and Warwickshire Hospital on December 20th, 1906, suffering from exophthalmos. She had previously been seen by a medical man, who had found the urine to be loaded with albumen.

Family History.

The girl was an orphan, and none could be obtained. A sister was seen, and was found to be healthy.

History of Present Condition.

In the first week in December it was noticed that the "eyes looked queer"; a fortnight later the swellings of the temples were noticed. There was no history of vomiting, vertigo, or headache.

Condition on January 1st, 1907.

There is great proptosis of the right eye, which is displaced outwards and downwards. Its movements are very limited in an upward direction, but are fairly free in the other directions. There is also marked exophthalmos on the left side, but the condition is not so extreme as on the right side. The left eye moves well in all directions.

There is enormous engorgement of the conjunctival vessels in the upper cul-de-sac on each side, that on the right side being more intense. The veins of both eyelids and on the temples are greatly distended. There is marked chemosis of the right eye. No pulsation can be felt in either orbit, nor can any bruits be heard.

The pupils are equal and normal in size, and react to light and accommodation. All the media are clear.

There is optic neuritis on each side, the right disc being choked to the extent of 2.5 dioptries, the left only to 1.5 dioptries. The congestion of the retinal veins is not extreme. There is a retinal haemorrhage at the outer and the upper aspect of each disc, close to its margin in each case. These haemorrhages are in extent equal to about one-sixth the area of the disc.

VR uncorrected = $\frac{1}{2}$ TR = $+\frac{1}{2}$
VL " " = $\frac{1}{2}$ TL normal.

Each temporal fossa is bulged out by a semifluctuating swelling which becomes harder as one leaves the temporal muscle; and above it merges into bone. This swelling is much larger and harder on the right side.

The girl looks very ill. Her skin is a yellowish waxy colour, and suggests extreme anaemia. She can, however, walk and co-operated intelligently in the ophthalmoscopy and vision testing.

There are no subcutaneous haemorrhages and no oedema of the ankles or legs. The chest was carefully examined and was found to be normal, there were no cardiac murmurs and no dullness was detected over the sternum. The abdomen was flat and there was no ascites. The liver and spleen were normal in size. No enlarged glands were felt.

The urine contained neither sugar nor albumen, but before admission albumen had been found in large amount.

The blood examined fresh showed a large excess of leucocytes. The count gave the following result:

Red cells, 3,000,000.

White cells, 26,000.

I made some films, and they were kindly examined for me by Dr. J. Cropper, of Chepstow, who reported as follows:

Differential count:

Polymorphonuclear cells ...	2	per cent.
Large lymphocytes ...	69	"
Large mononuclear cells ...	14.8	"
Small lymphocytes ...	14.2	"
Eosinophiles }	not present.	
Mast cells }		

"The low proportion of polymorphs is very striking. The condition is one of lymphatic leukaemia, rather than myelogenous leucocythaemia, pointing to affection of the glands rather than of the bone marrow, there being no eosinophiles of any kind, such as one sees so commonly in myelogenous leukaemia."

The photograph shows the general appearance of the patient at this stage.

Progress of the Case.

January 10th. The spleen can just be felt. Small glands can be felt in the axilla, neck, and groin.

There are some purpuric haemorrhages under the skin on the right buttock and thigh. The saliva is also a little blood-stained, the blood apparently coming from the gums. Patient

* Communicated to the Coventry Division.