above the left ear, an incised wound of the left cheek, a punctured wound of the neck (left side), and an incised wound of the left middle finger. Surgical emphysema was well marked and extended over the lower part of the left thorax and upper abdomen. A director passed into the chest wound penetrated very deeply downwards, medially, and somewhat backwards, and on withdrawal was followed by a gush of blood. During his evidence before the magistrate the patient had one fit of explosive vomiting and his general condition became much worse.

Operation.

The patient was anaesthetized with chloroform. The original wound was extended inferiorly and medially diagonal-wise. The stab was found to have severed the costo-cartilage of the eighth rib, opening the pleural cavity and passing through the left cupola of the diaphragm, which was incised vertically for about $3\frac{1}{2}$ in. The eighth and ninth ribs in this situation were resected. Further exploration showed that the spleen was wounded, and a portion of it had been sliced off and was free in the abdominal cavity. Considerable haemorrhage was taking place. As the wound was not large enough to deliver the spleen a horizontal incision across the upper left rectus was made. While delivering the spleen a tear in the omentum close to its attachment along the greater curvature of the stomach was noticed, which on inspection disclosed an opening in the posterior wall of the stomach, the cut being $1\frac{1}{4}$ by $1\frac{1}{2}$ in.; through it gastric contents escaped. This opening was securely clamped. The pedicle of the spleen was tied in two halves with thick silk and the spleen removed.

The wound in the stomach was next attended to. The rest of the abdomen was shut off to prevent further contamination and the rent sutured with catgut. The peritoneal cavity in this situation was cleaned and mopped out with saline. The tear in the diaphragm was next sutured with interrupted stitches of stout catgut. The diaphragm was then carefully inspected from both pleural and abdominal surfaces. The left lung was collapsed and was about 4 in. distant from the upper edge of the operation wound. The edges of the pleura were sutured with interrupted catgut and the peritoneum with continuous catgut. A drainage tube 5 in. long and $1\frac{1}{3}$ in. diameter, to drain the left subphrenic area, and another 4 in. long of the same diameter to drain the left pleural cavity, were inserted. The rectus muscle was sutured with stout silk, as also the muscles and fasciae involved in the diagonal incision.

During the operation and as soon as the pedicle of the spleen had been clamped half a pint of saline was given intravenously. Saline was also left in the peritoneal cavity before closure. Immediately after operation the following was given per rectum: glucose $\frac{1}{2}$ oz., sod. bicarb. 30 gr., brandy 2 oz., saline to 10 oz. Digitalin and strychnine, of each gr. $\frac{1}{100}$, was given every four hours, and the patient laid over on his injured side to allow freedom of the good lung and to facilitate drainage.

After-History.

The patient had a long convalescence. He had severe vomiting, developed pneumonia in his left lung, and his blood disclosed a heavy infection with subtertian malarial parasites, while he discharged freely and copiously through both tubes. At one time a thick milky discharge from the abdominal tube was thought by the patient and his attendants to be milk. We feared a gastric fistula. His milk was therefore coloured with methylene blue, but our fears were proved to be groundless.

He was given breathing exercises which involved blowing water out of one receptacle into another. This caused him some amusement, but later he looked upon it as a religious rite and did it conscientiously and seriously.

A month from the day of the operation the patient walked about with the aid of a crutch; the abdominal wound was healed, whilst the thoracic opening still allowed air to whistle in and out, and a fairly copious discharge to flow. His appetite was enormous. (In this connexion we believe that experimental removal of the spleens of cats causes those animals to develop voracious appetites.) He always complained of pain in his left shoulder, however, and later still his general condition became bad. He continued to get thinner and the pain in his left shoulder region became much worse. The discharge from his pleural cavity contained staphylococci and streptococci. We did not think he was draining properly, and under local anaesthesia opened up the wound and withdrew 5 oz. of thick pus. A drainage tube $\frac{3}{4}$ in. in diameter was put in and the free end inserted into a bottle containing tincture of iodine and distilled water in equal quantities. The patient was able to blow bubbles into this solution and on expiration fluid was sucked into his pleural cavity. This did not produce coughing. As the result of this treatment for six hours he developed severe iodism, but from that moment the septic temperature ceased and his condition continually improved. The solution in the bottle was changed to one containing 1 in 100 lysol, while large doses of potassium iodide were given by the mouth. He used to walk about the hospital carrying his bottle slung from his shoulder like an army water bottle.

He was eventually quite cured and left hospital with a very sound scar after having been in for nearly four months. Auscultation of his left lung showed that the upper lobe was functioning.

Remarks.

1. It will be agreed that the patient's vitality was very good; that and his desire for revenge pulled him through his first week when things seemed hopeless. (His assailant got six years' transportation, and the trial in its several

phases took place at the hospital whenever the patient's evidence was required.)

2. The diagnosis between prolapsed omentum and lung tissue is apt to be confusing, especially when air is whistling through the wound and the tissue expands and collapses with respiration.

3. The path traversed by the knife must have been: (i) thoracic wall (including rib cartilage); (ii) pleural cavity below the level of the lung tissue; (iii) left cupola of diaphragm on its steep parietal aspect where it, with the thoracic parietes, forms a deep cul-de-sac; (iv) parietal peritoneum; (v) large sac; (vi) visceral peritoneum; (vii) spleen; (viii) large sac; (ix) small sac; and (x) stomach. It will be remembered that the spleen forms part of the "stomach bed" (Birmingham), but that it is separated from it by a "niche of the great sac of the peritoneum" (Cunningham). The other organs which take part in the formation of the bed are separated from the stomach by the small sac. As the peritoneum covering the posterior surface of the stomach forms part of the anterior wall of the small sac, the knife after traversing the splenic niche of the great sac must have entered the small sac, before piercing the stomach wall.

4. The movement of the knife and its rewithdrawal during the struggle might also have caused: (i) the tear in the omentum near the stomach wound; (ii) slicing off of a portion of the spleen; (iii) the length of the wound in the diaphragm; and (iv) prolapse of the omentum.

5. The direction taken by the weapon would have been chiefly downwards, inwards, and also backwards. Previous to this case we had to make a *post-mortem* examination for the police in a stab case. The path traversed by the knife on this occasion was—thoracic wall, pericardial cavity just missing the left ventricle, left cupola of diaphragm near its summit, peritoneal cavity, extreme left edge of liver, extreme upper and innermost edge of the spleen, and so into the stomach (posterior surface). In this case a portion of spleen tissue intervened between stomach and liver, due to the enlargement of the spleen. In this district it is "normal" for Chinamen to have large spleens. We recently removed one weighing $5\frac{1}{2}$ lb. from a Chinese carpenter who had been stabbed.¹ He made an uneventful recovery. The usual weight of a healthy spleen in European countries is 5 to 8 oz.

REFERENCE.

¹ Hefferman: *Indian Med. Gaz.*, July, 1923, p. 315.

THE EFFECT OF THYROID AND OVARIAN GLAND EXTRACTS IN CASES OF PREVIOUS MIS-CARRIAGE AND STILLBIRTH.*

BY

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THIS paper is based entirely upon work done during the last eighteen months at the maternity clinic held at the Sheffield Maternity and Child Welfare Centre.

Any expectant mother requiring advice may come up on Saturday morning at 10 o'clock to see the medical officer, it being clearly understood that no treatment is available beyond ordering the aperients liquid paraffin and molevac, or a malt preparation or a dried milk with a view to strengthening a mother who is being insufficiently nourished owing to the present economic situation, thus enabling her to be strong enough to feed her baby at the breast when it arrives. The clinic is informal and entirely run by women. Patients often wish to know if their confinements should be straightforward and whether it will be sufficient only to engage a midwife; and midwives wish to have this information before undertaking to attend a primipara. This is exceedingly wise, and when the charts are completed after the arrival of the baby it is seen that an accurate forecast can be given.

From February 1st, 1922, when the clinic was taken over, until December 31st, 1922, 73 charts were completed; in

* A paper read before the Sheffield and District Branch of the Medical Women's Federation.

68 instances babies were born alive and healthy, four babies were stillborn, and the other mother miscarried early. In two cases the mother attended once and was asked to come again, but failed to do so. Another mother was a notified case of tuberculosis and very ill. The fourth mother was given special treatment, to be described later; this she discontinued against advice, and one week later the baby was stillborn, prematurely. Miscarriage threatened in the fifth mother when seen, and she was sent home to bed under the care of her own doctor, but a miscarriage was not averted. Considering that very many patients come because there is something unusual which causes a midwife to suggest that they should attend, or often because previously they have had stillbirths, these results seemed encouraging.

From January 1st to July 3rd, 1923, I think 87 charts have been completed without, I believe, one stillbirth being recorded. These cases included three threatened abortions, two Caesarean sections referred to the Jessop Hospital, and two cases of albuminuria with pre-eclamptic symptoms admitted the same day to the Jessop Hospital. It will therefore be clear that, with ante-natal care, cases of stillbirth can be greatly reduced in number. In Sheffield cases of stillbirth, where no doctor is in attendance, are notifiable to the Public Health Department; 142 stillbirths were so notified in 1922. The health inspectors visited in every case, and many of the mothers subsequently attended the clinic. The results of investigation have been very disappointing. That syphilis is not a very common cause of stillbirth is shown by the fact that in no case sent for a Wassermann reaction has a positive result been reported. Further, 62 mothers out of 142 had previously had one or more—up to ten—other children born alive and no previous miscarriage or stillbirth. In syphilis a living child may follow stillbirths, but the reverse is not so common. It would be unreasonable to suggest that all these 62 mothers had developed syphilis since having the previous children. Every mother who has a stillbirth is invited to come up to the Maternity Clinic should she again become pregnant.

Nine cases where syphilis as a cause had been excluded and no other cause could be found were, by kind permission of the medical officer of health, treated during the pregnancy at the clinic by giving every night thyroid (1/8 to 1/4 grain) and ovarian extract (5 grains). Notes of these cases are as follows:

Case 1.—Aged 27; one previous pregnancy—stillbirth full-time. Treatment begun September 9th (sixth month). On October 14th the mother discontinued treatment. October 21st, macerated foetus.

Case 2.—Aged 29; one previous pregnancy—premature, lived thirteen days. Treatment begun October 14th (eighth month). October 27th, full-time child, normal weight; breast-fed; last seen aged 35 weeks; weight 19 lb. 6 oz.

Case 3.—Aged 29; five previous pregnancies—namely, (1) three months' miscarriage; (2) full-time stillbirth; (3) normal living baby; (4) full-time stillbirth; (5) eight months' stillbirth. Treatment begun November 11th (sixth month). February 7th, small baby weighing 3½ lb.; lived one month. The mother was in bed suffering from influenza when labour came on.

Case 4.—Aged 31; two previous pregnancies—(1) premature stillbirth; (2) premature twins, lived one week. Treatment begun November 25th (sixth month). February 22nd, full-time living baby weighing 9½ lb. Seen by inspector at four months—breast-fed and doing well.

Case 5.—Aged 24; four previous pregnancies—(1) five months' miscarriage; (2) six months' miscarriage; (3) seven months' premature, lived one hour; (4) seven months' premature, lived a few minutes. Treatment begun November 25th (fifth month). March 22nd, full-time living baby weighing 5½ lb. Seen on June 22nd at three months old, weight 10 lb.

Case 6.—Aged 20; one previous pregnancy, eight months' premature, died immediately from congenital abnormalities. Treatment begun January 6th (sixth month). April 16th, full-time child, weight 5 lb. 6 oz., born in hospital; did well for the first week, but died on the eighteenth day; cause of death unknown.

Case 7.—Aged 26; one previous pregnancy—seven months' baby, lived three and a half hours. Treatment begun December 3rd (fifth month). April 22nd, full-time baby, normal weight. Seen on July 7th at ten weeks old, weight 11½ lb.

Case 8.—Aged 39; two previous pregnancies—(1) full-time stillbirth; (2) two months' miscarriage. Treatment begun January 6th (fifth month); May 19th, full-time child, weight 7 lb. Seen on June 16th, doing well, not weighed.

Case 9.—Aged 29; three previous pregnancies—(1) three months' miscarriage; (2) six months' miscarriage; (3) three months' miscarriage. Treatment begun November 11th (third month). June 6th, full-time child, weight 11 lb. Seen by inspector—doing well.

Conclusions.

1. In nine out of ten cases (90 per cent.) the baby was born alive, and this might have been raised to 100 per cent. if the other mother had continued her treatment to term; in seven out of ten cases (70 per cent.) the baby lived and did well.

2. Out of twenty-three possible babies which might have been born to these patients previously, only three (13 per cent.) were born alive, and in only two cases (barely 9 per cent.) the baby lived; both babies were small at birth and awkward to rear according to the histories obtained.

3. In only two out of ten cases the mother has another living baby. In both cases two miscarriages or stillbirths have occurred in between, and in one of these, two preceded the first living baby.

4. The two babies who died survived for one month and eighteen days respectively. In this connexion it is interesting to note that other much smaller babies who have attended the dépôt have done well. One of my dépôt babies weighed 2 lb. 10 oz. when seen at a fortnight old, and is now a lovely healthy baby of six months. It is essential that tiny babies should be seen early, and mothers having treatment are now instructed to send the baby at once if it is small.

5. Three of the babies were above average weight (7½ lb.) at birth.

6. The smaller babies attending the dépôt have done very well and gained more rapidly than is normal.

7. All the babies are breast-fed.

8. All the confinements were normal.

9. It is advisable to begin the treatment at five months or earlier, as in this case the baby tends to be bigger.

10. The health of the mothers during pregnancy was greatly improved after they began the treatment.

Memoranda :

MEDICAL, SURGICAL, OBSTETRICAL.

THE TREATMENT OF PARAPHENYLENEDIAMINE DERMATITIS.

THE dermatitis produced by dyes derived from paraphenylenediamine is very severe and exceedingly painful and distressing to susceptible persons. If not properly and promptly treated in the early stage it may last for many weeks or months and spread widely over the body. The skin specialist as a rule only gets these cases in a late stage when little can be done to shorten the duration of the disease.

I have recently seen two cases—one from hair dye and one from dyed furs—within a few hours of the onset of the dermatitis, and the treatment here described was very successful in reducing the duration of the disease.

CASE 1.—Hair Dye.

A paraphenylenediamine dye was applied on July 10th. The hairdresser brought the patient to me on July 11th. He was in great pain; the scalp was acutely eczematous with oedema and exudation developing over the whole, but not much beyond the hairy margin. It was directed that the scalp should be thoroughly washed and doused with plenty of water, gently dried, and a solution of sodium hyposulphite (1 oz.) in water (4 oz.) ordered. The scalp was to be thoroughly sprayed with one part of this in two of warm water, the washing and the lotion to be repeated every four hours. On July 12th the oedema had increased and the face was more involved, but the patient experienced great relief from the pain; he stated that the first application of the lotion took away three-quarters of the pain, and he had an excellent night's sleep. I prescribed two more douchings with water and the hyposulphite lotion was reduced to one in four, to be applied after the douching. On July 13th the oedema of the face had increased, but the scalp was less swollen; exudation, however, was free. A lotion consisting of plumbi subacetat. fort. 1/2 oz., glycerin 2 dr., and aq. destil. 10 oz., was prescribed, to be used, one part to two of warm water for the face, and one part to four of water for the scalp. Improvement followed, and on July 17th the oedema of the face was greatly reduced, the scalp was far less inflamed, and the patient was quite comfortable. He did not require to consult me again and was, I am told, practically well in a fortnight.