6. Silk should be used for the pedicles, and it is advisable to avoid including too much tissue, especially at the vaginal angles.

7. If the bladder is pushed well down and one keeps close to the side of the cervix in dividing the tissues there is practically no danger of injuring the ureter.

8. It should be the practice for an assistant to examine the cavity of the uterus before the abdomen is closed, as an undiagnosed cancer of the body may necessitate the removal of further tissue.

Concerning general health following operation 140 queries were sent out; 102 patients replied or called in person. The majority of these reported a marked improvement, and such remarks as "Never felt better," "Able to do my household duties," "Feeling a new woman" were constantly made. The return to a normal blood picture in those who had suffered from excessive haemorrhage was quickly accomplished, and dramatic recoveries were seen in those who had been operated upon for chronic infection.

Total hysterectomy is a safe, sound, and rational procedure when definite indications are present. I am in no sense advocating it as a panacea for the ills of the change of life, but I suggest that it is of immense benefit in that group of cases where chronic uterine sepsis is producing a pathological menopause.

SUMMARY AND CONCLUSIONS

1. A series of 210 hysterectomies is reported.
2. Of these 165 were abdominal total hysterectomies, with a mortality of 1.8 per cent.
3. The chief symptoms complained of, and the indications for operation, are analysed.
4. The results of an inquiry into the general health, marital life subsequent to operation, and the occurrence of the surgical menopause are recorded.
5. Total hysterectomy is advocated as a routine, and the reasons for this are given.
6. Some important points in technique are stressed.

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A CASE OF ACUTE SUPRARENAL HAEMORRHAGE

BY

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The occurrence of haemorrhage into the adrenal glands has long been recognized as a separate clinical entity, but difficulty of diagnosis is emphasized by the fact that most cases are discovered at necropsy; consequently little advance has been made in ascribing to the condition a definite aetiological factor, and none at all in the treatment of the catastrophe. All ages suffer, but infants are most commonly affected. Gunson¹ reports a case in a female aged 6 days; the mother was suffering from puerperal fever and the baby had umbilical sepsis and cellulitis of the arms. Death occurred thirty hours after the onset; post-mortem examination showed haemorrhage into both suprarenal glands, while microscopical examination of a section of the suprarenal, stained by Gram's method, revealed the presence of streptococci. In only a few cases is a presumptive cause so evident as this. Eadie² publishes details of a case of bilateral suprarenal haemorrhage occurring in a boy aged 5 years.

The presence of a definite infective origin for the condition is demonstrated in an article by Lusk and Brumbaugh.³ They record the case of a man, aged 27, working in a lumber camp, who was treated for a felon and later developed follicular tonsillitis, a strain of *Streptococcus haemolyticus* being isolated from the throat. Death followed a brief illness, and necropsy showed haemorrhage into the suprarenal gland, with spontaneous rupture and extensive retroperitoneal haemorrhage. Blood culture revealed the presence of a haemolytic streptococcus. This case was followed by a series of cases of empyema in contacts, and in those so affected a haemolytic streptococcus was isolated from the pus aspirated from the chest in each case. Goodhart and Still⁴ report a case in a male aged 17 months, and in a brief review of the condition point out the inefficacy of treatment even when diagnosis can be made with certainty.

At the other end of the scale is the type of patient of whom Severn writes.⁵ A female, aged 59, unmarried, had been under observation for melancholia and arteriosclerosis with albuminuria, when she suddenly collapsed and was found in a condition of profound asthenia, with a temperature of 102° F.: general atonia and marked abdominal distension were present. Death followed within three hours. Necropsy showed the spleen to be pultaceous and pale, while the suprarenal glands were distended, oval, and red, with no other signs of disease. Careful examination revealed that the haemorrhage had destroyed the medulla and extended to the cortex. No infecting organism was found.

Kempf⁶ reports clinical details of "classical" types—that is, rapidly fatal cases of suprarenal haemorrhage in young children, accompanied by diffuse purpuric cutaneous eruption, pyrexia, and signs of acute infection. An excellent review of the subject is supplied by Rabinowitz,⁷ who distinguishes cases due to: (1) asphyxia, associated with birth; (2) to sepsis (secondary) from streptococci, meningococci, and other bacteria; (3) burns; (4) definite infections such as diphtheria, typhoid fever, scarlet fever, tetanus; (5) trauma; (6) haemorrhagic diathesis; and (7) leukaemia. Two cases are reported in females aged 18 and 17 months respectively. In a subsequent discussion he lays down as criteria for a diagnosis of the condition—acute illness in a healthy child, rapidly followed by purpura and collapse, in the absence of signs pointing to a meningococcal infection.

Kessell⁸ reports a case of acute haemorrhage into both suprarenal glands in a male aged 30; no cause could be ascribed to the condition, although a thorough necropsy was made. Thomson⁹ sums up the essentials of our very inadequate knowledge of the subject as follows:

"Bleeding into one or both of the suprarenals is frequently found in newborn children, as a result of birth injury. It sometimes occurs in children of a few days old, from septicaemia, but the interesting type of the disease is that which occasionally sets in in children during the first year of life, as part of a rapidly fatal illness. The disease sometimes occurs as an epidemic, though there is no other reason to believe it to be infectious. The symptoms set in suddenly with severe abdominal pain, high fever, and sometimes vomiting and diarrhoea. Scattered purpuric spots may appear over the surface of the body. Convulsions are common, and death occurs usually within twenty-four hours, with quick pulse and respiration, and general collapse. No treatment has any effect."

Henderson and Pettigrew¹⁰ bring to notice a case in a female aged 7 months. There was a history of one day being "off colour" and vomiting once. Purpuric spots were present; sudden cyanosis occurred at night, death following almost immediately. Necropsy showed extensive haemorrhages into both suprarenal capsules.

CASE REPORT

A female, aged 17 months, was brought to hospital on account of being "unwell" for one day. About thirty

minutes before she was seen she had had three convulsions in rapid succession; she was "very restless, then went into spasm, with arms and legs straight out and eyes open and turned up." Each fit lasted about one minute. She was unconscious, and could not be roused. Vomiting had occurred once earlier in the day. Previous history told of a normal birth at full term and an attack of whooping-cough about three months before admission.

Examination showed the child to be in a comatose condition; the temperature was 104.6° F., pulse 134, and respiratory rate 80 a minute. There was impaired concussion note over left side of chest, mainly at the base, with high-pitched bronchial breath sounds; rales were present at both bases. Abdomen was flaccid and slightly distended; there was no rigidity and no palpable tumour. Heart sounds were rapid, but otherwise normal. Pupillary, superficial, and deep reflexes were all normal. There was a rash on the trunk and limbs consisting of small erythematous spots, which, however, faded during examination; no other cutaneous manifestations occurred. Optic disks were normal.

For the next seven hours the condition of the patient was one of extreme drowsiness and apathy. At the end of this time the temperature was 105° F., pulse 128, and respiratory rate 80. About thirty minutes later another convulsion occurred, with generalized body twitchings and eyes turned up. This quickly subsided, to be followed by another brief convulsion, during which death occurred.

Necropsy Findings.—The body was that of a well-nourished female child, normally proportioned and well grown. The skin presented no abnormal features. Thoracic contents: heart normal; right lung, a little basal congestion; left lung, some consolidation and collapse affecting the lower half, the distribution suggesting a bronchopneumonic rather than a lobar pneumonic infection; pleural cavities were clear. Abdomen: the spleen was somewhat enlarged, engorged, and slightly diffuent; liver normal; suprarenals were enlarged and dark red in colour, and on section there was extensive haemorrhage into each, the left side being more affected than the right; other abdominal viscera were normal, as were also the cranial contents.

Histopathological Findings.—Sections of the adrenal glands showed that the medulla had been practically destroyed by the haemorrhage, which had extended into the cortex, but had not transgressed the boundaries of the gland capsule. There was no sign of any diseased condition of the gland itself. Section stained by Gram's method failed to reveal the presence of any organism. The spleen was engorged, but otherwise normal; section stained by Gram's method was, as in the case of the suprarenal gland, negative for organisms.

COMMENT

A case is reported of spontaneous suprarenal haemorrhage, presenting a fairly typical history and with fatal termination. Owing to the fact that the condition was not diagnosed until after death, investigations such as blood culture, which might have thrown light on the aetiological factor at work, were not made. The occurrence of the terminal hyperpyrexia is noteworthy, as is also the non-appearance of a definitely purpuric rash.

With regard to causation it is conceivable that an organism responsible for the state of the left lung, itself a possible legacy from the attack of pertussis, might have been culpable, a view not supported by the negative "Gram" sections. Remembering the ease with which basal collapse occurs in moribund children, the pulmonary factor in the aetiology of this case should not be overstressed.

On purely theoretical grounds, by analogy with Addison's disease, a very low blood sugar might be expected in these cases, though such investigation was not carried out in our patient, nor is there any record of a blood sugar estimation having been made in reported cases. If this conception of the condition is borne out by investigation in future cases, it is suggested that a rational line of treatment should include the administration of glucose, adrenaline, and a potent extract of the suprarenal cortex, such as is now obtainable, given by

the most rapid route available. If the patient could be tided over the acute phases of the condition—an acute glandular failure—recovery is just possible: the haemorrhage may cease as it began, spontaneously. Unfortunately, the majority of such adrenal haemorrhages progress to a fatal termination.

I wish to thank Dr. H. Sanguinetti and his assistant, Mr. Creed, of the Pathological Department, National Temperance Hospital, for their assistance in the preparation and staining of the microscopical sections; and to acknowledge my debt to the librarian of the British Medical Association Library.

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Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

REPEATED PERFORATIONS IN A CASE OF DUODENAL ULCER

There is little mention in the literature of cases of repeated perforation of the same duodenal ulcer. The following case is unique in my experience, and is perhaps worthy of brief record.

A man, aged 65, was admitted into the Southend General Hospital on June 9th last. A few hours previously he was seized with the sudden excruciating pain so characteristic of perforation, and when admitted he had all the familiar signs and symptoms of this catastrophe. He diagnosed his own condition and was able to give a concise account of three similar experiences. In May, 1925, he was admitted to St. Olave's Hospital, Rotherhithe, as an acute abdominal emergency; the abdomen was opened, and a perforated "gastric" ulcer was embedded and closed by suture. In 1927 he was operated upon on admission to St. Leonard's Hospital, Hoxton Street, for a second perforation, and again in the same hospital in August, 1932. Although full notes were not available, the same type of emergency operation was performed, infolding and suture, on each occasion.

The fourth perforation, as already mentioned, occurred on June 9th, 1933, and the abdomen was opened through the old scar. Adhesions were conspicuous by their absence; the general peritoneal cavity contained gas and much free fluid. The perforation was readily found in the first portion of the duodenum adjacent to the pylorus. It was closed in the usual manner, covered with omental tags, and on this occasion a posterior gastro-enterostomy was performed. The patient made a rapid recovery, and was discharged from hospital a month later. A careful search was made for any evidence of gastric ulcer, but none was found. We felt certain at the end of the operation that it was the same duodenal ulcer which had perforated and had given rise to the same typical clinical phenomena on each of the four separate occasions.

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ANTE-NATAL VERSION AND SUBSEQUENT RUPTURE OF THE UTERUS DURING LABOUR

In midwifery there is now a great increase in ante-natal version, with a view to easing the delivery for the mother and lowering the stillbirth rate. The stillbirth rate in breech cases is over 20 per cent. in the statistics of most large maternity hospitals. There are certain recognized dangers in association with version—for example, haemor-