

2½ pints of blood and 1½ pints of plasma, given over a period of 6 days. One is tempted to ask if this is a record for the amount of blood given over such a short period. The anaesthetic used was pentothal 0.5 g., N₂O, and oxygen, with an absorber. The patient's condition 10 weeks after operation can be regarded as satisfactory. In the first two operations both Groups A (II) and O (IV) were used in about the proportion of 2 to 1, while in the last operation A only was given.

The patient's blood picture at the present time shows the following: R.B.C., 4,200,000; Hb, 71% (Sahli); W.B.C., 6,800 (polymorphs 59%, lymphocytes 28%, monocytes 12%, eosinophils 1%).

COMMENT

Anaesthesia for cases of aneurysm presents no unusual difficulties, but a liberal quantity of oxygen is indicated, particularly when the blood loss is heavy. Planning and preparation for a large blood loss in these cases was always necessary. Transfusion was given to all cases in order to be immediately ready for any emergency. In two cases two transfusions were set up at the same time in the one patient. With all precautions a transfusion may not be able to keep pace with blood loss.

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Local Penicillin in Purulent Pericarditis

The following case of acute purulent pericarditis was treated by direct infusion of penicillin in Ringer's solution after surgical drainage. Two complications—pleural effusion and infection of an inadequately removed rib cartilage—arose during treatment.

CASE REPORT

The patient is a full Samoan, aged 29, and a local resident. He was admitted on Dec. 16, 1944, with fever, pains in the head and chest for 5 days, a cough for 7 days, and an abscess on the left leg for 7 days. The abscess had been discharging for 2 days before admission. His previous history was a pleural effusion, for which he had been treated in hospital 7 years ago. The diagnosis was toxæmia, secondary to the abscess of the leg. A bacteraemia was suspected, but no growth occurred after 5 days' incubation.

On the night of admission his temperature rose from 103.8° to 105°, but dropped the following day to 100°, thereafter fluctuating between 102° and 99° until the second day after operation. His white cell count was 12,650. He was given 2 g. of sulphapyridine on admission and 1 g. six-hourly for three days. At this time sulphadiazine was substituted, and he received a course of 33 g. in 9 days. The response was poor, and he was given 6 g. of sulphathiazole in two days without any benefit. Two weeks after admission his white cell count had risen to 18,100 and the blood cultures were still negative.

20th Day.—A pericardial rub was audible and fine rales were heard in the bases of both lungs. Intravenous penicillin was started (225,000 units in 48 hours); the temperature, pulse, and clinical condition remained unchanged.

28th Day.—Red cells, 3,600,000; Hb, 76%; C.I., 1.05. White cells, 9,800 (polymorphs 62%, lymphocytes 24%). The apex beat was now in the midaxillary line and the right border was 2 in. beyond the right sternal border at the 5th intercostal space. The neck veins were prominent, and the patient was in great respiratory distress.

32nd Day.—I was called in consultation. At this time his precordial dullness was continuous on the left from the 2nd interspace in the midclavicular line to the midaxillary line at the 6th space. The right border was at the midclavicular line in the 6th space. Heart sounds were not audible. Breath sounds were absent in the left lower chest, and coarse rales were heard throughout the remaining areas of the chest. The pericardium was aspirated through the 5th intercostal space, 30 c.cm. of blood-stained semipurulent fluid being removed. Vision was almost absent in the left eye and blurred in the right. In preparation for surgical intervention a blood examination was made, with the following results: Group O: red cells, 4,400,000; Hb, 87%; C.I., 0.98; white cells, 5,200 (polymorphs 66%, lymphocytes 18%); Schilling, left shift 3:1; sedimentation rate, 41 mm. in 1st hour; bleeding time, 3 min.; coagulation time, 4 min.; total serum protein, 7% (albumin 4.6%, globulin 2.1%); mean corpuscular haemoglobin concentration, 48%; culture sterile after 7 days' incubation.

35th Day.—I performed a pericardiectomy, using local analgesia, through a linear incision centred over the 5th and 6th rib cartilages. Two inches of the rib cartilages was removed. The intercostal bundles were incised in the line of the incision and sutured to the deep fascia. Two tie sutures were inserted into the pericardium and the incision made between. There was an immediate burst of effusion, projected 12 ft. Using the tie sutures to open and shut the incision, gradual decompression was effected. Two and a half pints of effusion was expressed by heart action. The tie sutures were then united to the skin to ensure patency. 20 c.cm. of penicillin (1,000 units per c.cm. in Ringer's) was instilled into the sac with a Dakin syringe, and a vaselined gauze dressing laid on the wound. The blood pressure at the start of the operation was 94/54: no appreciable change occurred during the operation. 500 c.cm. of whole blood was given during the procedure, followed by 1 litre of 5% glucose-saline at 36 drops a minute. B.P. readings were taken at 15-minute intervals for the next 8 hours, being uncertain of the origin of the blood in the effusion. The maximum reading was

138/80, and the minimum 94/50; after 6 hours it became constant at 108/62. The pulse during this time was a maximum of 134 and a minimum of 100 a minute. The effusion gave a heavy culture of pure *Staph. aureus*, sensitive to penicillin *in vitro* (38 mm. zone of inhibition).

Conspicuous relief of cardiac and respiratory distress was apparent 4 hours after operation. Twice-daily dressings were done, 10 c.cm. of the same concentration of penicillin being instilled each time, for five days.

2nd Post-operative Day.—Sulphadiazine was begun because of our limited supply of penicillin, a course of 24 g. being given in 13 days. From this time onwards the temperature fluctuated between 97 and 98.8° until March 18.

8th Post-operative Day.—B.P., 102/68; pulse, 90; respiration rate, 22. The apex beat was 4½ in. from the midline in the 5th intercostal space, all heart sounds clearly audible but still faint; moist sounds were heard in the pericardium. Blood examination showed: Red cells, 4,800,000; Hb, 90%; C.I., 0.92; sedimentation rate, 21 mm.; white cells, 6,500 (polymorphs 53%, lymphocytes 38%); Schilling, right shift 8:11.

By the 17th post-operative day the sinus had closed spontaneously, but some discomfort was felt. The sinus was opened, releasing about 30 c.cm. of penicillin-stained serous fluid with no active units. On the 19th post-operative day 10 c.cm. of similar fluid was aspirated: a guinea-pig test revealed nothing pathological. By the 21st post-operative day (Feb. 10) the precordial sinus had closed, and the patient progressed satisfactorily until the 45th post-operative day (March 5), when the wound became tender. On the 50th post-operative day (March 10) it broke down, and a semi-purulent discharge began. Four days later 1 pint of fluid, similar to that previously evacuated, was removed. Some pain and embarrassment were felt and aspiration was discontinued. On March 21 (61st post-operative day) gentle curettage was performed. On April 16 the patient was discharged to the out-patient department with a draining sinus. Two weeks later he was readmitted for removal of an infected cartilaginous tip of the 5th rib. By May 22 the wound had healed and the patient was discharged. The heart was then within normal limits and the chest clear and resonant throughout; B.P. 112/78. Eyes: both fundi clear; fields normal; left eye 6/12, right eye 6/18, Snellen.

There is as yet no clinical evidence of any pericardial adhesions, which will perhaps be found later, and I anticipate the follow-up with interest. The normal base-line temperature of Samoans is 97° F.

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A Very Large Granulosa-cell Tumour of the Ovary

The following case is of interest because of the unusually large size of the tumour.

CASE HISTORY

The patient, a woman of the Hausa tribe of Northern Nigeria, aged 35, was first seen in Sept., 1944, when she complained of gross enlargement of the abdomen. Two years and ten months previously she began to suffer from continuous uterine bleeding, with the passage of clots of blood. This lasted for ten months, and was followed by complete amenorrhoea for the two years up to the date of examination. The enlargement of the abdomen began two years ago and gradually increased throughout this time. Menstruation was normal before the onset of the condition. The patient was married at about 14 years of age (as is the practice of the Hausa people), and had three live children, the last 16 years old, and a miscarriage ten years ago. Since then she has had no further pregnancy.

On examination the patient was seen to be a thin woman with an abdomen larger than the average full-term pregnancy. The swelling was not uniform, but was more prominent in the hypogastrium and left iliac fossa. Per vaginam the lower pole of the tumour was felt through the posterior fornix. The position of the uterus could not be properly defined.

On Sept. 8, 1944, laparotomy was performed under open ether anaesthesia. The tumour was found to arise from the right ovary, and had a well-defined pedicle. Numerous omental adhesions were divided, the pedicle ligated and divided, and the tumour removed. The uterus was of normal size; the left ovary was atrophied as in a patient after the menopause. The abdomen was closed and the patient was given glucose-saline per rectum. Her recovery was straightforward. The tumour was found to weigh 20 lb. The greater part of it was solid—in some places necrotic. There was a cystic part about 6 in. across. Portions from the solid part of the tumour and from the wall of the cyst were examined microscopically by Dr. G. W. St. C. Ramsay, acting senior pathologist at the Medical Research Institute, Yaba, Nigeria, and he reported as follows.

"The specimen is a granulosa-cell tumour of the ovary. In the cystic part the tumour assumes a papillary form; elsewhere it is composed of solid masses of polyhedral cells with vesicular nuclei divided up by strands of rather hyaline connective tissue. The size of the tumour may possibly be a record. Ewing quotes one case weighing 10½ lb., or just about half the weight of this specimen."

The patient was seen again about three months after the operation and was then in good health.

I am greatly indebted to Dr. Ramsay for his report and for photomicrographs he prepared from the sections of the tumour.

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