remarkable fall in the white-cell count which gradually occurred over a period of three weeks in Case 2 emphasizes the importance of caution in dosage when the white-cell count falls below 4,500, while the unexpected delayed fall in Case 1 indicates the importance of weekly white-cell and platelet counts for the first few weeks after the cessation of treatment. These counts may be carried out in the out-patient department.

Experience suggests that, with careful dosage and control by regular haematological investigations, severe degrees of marrow damage can be avoided. The remarkable powers of recovery of the bone-marrow have been shown in all five cases of toxic damage in this series.

In the event of severe marrow damage, three possible lines of treatment are now available: (1) Repeated transfusions with fresh donor blood while awaiting spontaneous recovery of the bone-marrow. This procedure was successful in Case 1 and warns against too ready praise for the other lines of treatment which appear to be highly successful. Had the white-cell count in Case 1 remained low for 24 hours longer, great success would have been claimed for the graft of foetal cells planned. (2) Infusions of marrow from a donor. Homografts have been carried out successfully (Humble and Newton, 1958; Mathé *et al.*, 1959; Thomas *et al.*, 1959; Beilby *et al.*, 1960). Proved survival of the grafts was not longer than three to four months, except in the case reported by Beilby *et al.* in which the donor was a sister. In this case the donor cells were still present in a proportion of 40% in the blood nine months after infusion. Furthermore, this treatment carries the danger of "homograft disease" as described by Mathé and Bernard (1959). In view of this danger and the temporary nature of the grafts, they would be indicated only in very exceptional cases. (3) Infusions of foetal haemopoietic tissue as described by Bridges *et al.* (1960) employing liver and spleen suspensions prepared according to the method of Kay and Constandoulakis (1959).

Such infusions have been carried out successfully in a large number of cases (Kay, personal communication), but the grafts survive for less than a month. The tendency in the past has been to treat cases too hastily without awaiting spontaneous recovery in a damaged bone-marrow.

This method will probably increase in usefulness for selected cases with extremely severe marrow damage. Whether the benefit derived from adult and foetal homografts is due to the actual transplant of cells or to bone-marrow stimulants remains to be discovered.

Fresh donor blood may contain factors of great importance for haemopoiesis, as suggested by the improvement in Case 1.

Where it is desired to give a second course of cytotoxic agents, a strong case can be made for withdrawing the bone-marrow with a view to a possible subsequent autograft as described by Humble and Newton (1958) and Westbury *et al.* (1959).

Summary

Of the 17 cases of breast cancer treated with cytotoxic drugs and testosterone, five developed serious bone-marrow depression. Spontaneous recovery occurred in all cases, but one required repeated blood

transfusions for severe haemorrhage. The danger of a delayed fall in the white-cell count and the likelihood of spontaneous recovery are pointed out.

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A CASE OF TWIN ANENCEPHALIC PREGNANCY

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Malpas (1937) gave the incidence of anencephaly in the general population as 0.3% and the incidence of recurrency of the malformation as 2.6%. Martin (1849) recorded the occurrence of six anencephalic births in the reproductive history of one woman.

Anencephaly in a twin pregnancy is rare. Ru-Kan Lin and Plenk (1955) recorded seven cases of twin pregnancy in which only one foetus was affected. They also described fully a case of twin pregnancy in which both foetuses were affected, the diagnosis being made *ante partum* by radiological means: this appears to be the first case in which the diagnosis was so made. Cases of twin pregnancy in which both twins have been found to be anencephalic have also been described by Josephson and Waller (1933), Dunn and Salter (1944, personal communication of a case encountered by Mr. Wilson Clyne), and Toulouse and Dubois (1957).

The following case is therefore thought to be rare enough to be put on record.

Case Report

A primigravida aged 25 with no past history of serious illnesses and with a regular menstrual cycle, 4/28 days, had her last menstrual period on March 10, 1959. Movements were first felt on August 7, 1959. Her blood was group O rhesus-positive. The Wassermann and Kahn reactions were negative. She was first seen in the antenatal clinic when 13 weeks pregnant. The size of the uterus was found to be consistent with the period of gestation. Physical examination did not reveal any abnormality.

She was next seen at this hospital when 22 weeks pregnant and was noted to have definite hydramnios. Abdominal girth measured 32 in. (81.2 cm.) and no foetal heart was heard. When seen at the antenatal clinic one week later her

abdominal girth was 32½ in. (82.5 cm.) and no foetal heart was heard.

An x-ray film of the abdomen in the antero-posterior diameter was taken. It was not very clear owing to the hydramnios, and only one anencephalic foetus was definitely seen, the fact that a second one was present being easily missed. At this stage it was therefore thought that there was only one foetus.

She was admitted to hospital on August 29. A Drew Smythe induction was performed next day and 49 oz. (1,390 mL) of brown liquor was obtained.

The induction did not stimulate her into labour, and subsequently she had a "pitocin" drip, a re-stretch of the cervix, and dihydroergotamine methanesulphonate, 0.25 mg. intramuscularly three times at four-hourly intervals. She eventually started in strong labour on September 6 and the cervix became fully dilated at 2 a.m. on the 7th.

At 2.35 a.m. the first foetus was born—breech presentation. It was macerated, and showed characteristic signs of an anencephalic female monster. Abdominal examination revealed the presence of a second foetus in longitudinal lie. No foetal heart was heard.

At 3.05 a.m. a vaginal examination was made and the membranes of the second foetus were ruptured. A large amount of brownish liquid was again obtained. On withdrawing the finger the placenta of the first foetus was expelled from the uterus. The second foetus—male—was born soon afterwards, and also showed typical features of an anencephalic monster. The placenta of the second twin failed to separate and had to be removed manually under general anaesthesia. The puerperium was uneventful.

Discussion

An added interest of the case is that it was a binovular pregnancy. The pathogenesis of the condition is that it is an arrest in development of brain and spinal cord due to failure of closure of the neural tube posteriorly about the fourth week. The neural plate, by exposure to amniotic fluid at the cephalic extremity, became atrophic.

No obvious environmental causes were to be found. The patient was a young primigravida with no preceding history of infections, menstrual disturbances, anaemia, nutritional deficiencies, or exposure to possible chemical or physical dangers. The fact that the foetuses differed in sex is against the aetiology being due to derangement of sex chromosomes. There is no family history of this abnormality or of frequent associated abnormalities such as spina bifida, hydrocephaly, or Klippel-Feil syndrome.

Summary

A case of binovular twin pregnancy in which both foetuses were anencephalic is described.

There was no evidence to incriminate any environmental or hereditary factors in this case.

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Medical Memoranda

A Case of Cryptococcosis of the Colon

The following case of cryptococcosis has some interesting peculiarities.

CASE REPORT

A 16-year-old male student from Rize complained of diarrhoea that had persisted for several years. Eight years ago he started having watery, foamy stools, containing some mucus, about five times a day. During the last few years he had abdominal pains, tenesmus, and bloody stools in addition. During this period he had twice been admitted to hospital without any improvement. There was nothing noteworthy in his past or his family history.

Physical examination revealed a mass, the size of an egg and slightly painful on pressure, in the left colic region. The faeces contained mucus, blood, and ascaris eggs. On rectoscopy the rectum was found to be hyperaemic. Blood count: erythrocytes, 3,660,000; Hb, 70%; leucocytes, 5,200; sedimentation rate, 15 at the end of the first hour on December 15, 1958, and 24 on January 3, 1959. The urine was normal and the Mantoux test negative. X-ray examination showed normal lungs and some narrowing in the descending colon.

Surgical exploration revealed a hard tumour-like mass adherent to the mesocolon, located in the descending colon next to the splenic angle. The sigmoid was free, and numerous lymph nodes of various sizes were present in the mesocolon. After liberation of the tumour mass from the spleen and kidney, to which it adhered very firmly, an end-to-end anastomosis was carried out. A Pezzer catheter was placed in the colon and the retroperitoneal region was drained. On the fifth post-operative day watery faeces started to ooze from the catheter, which was removed on the tenth post-operative day. Recovery was uneventful, except for the formation of a fistula on the site where the catheter had been inserted; secretions from this fistula however, gradually stopped. Drug therapy consisted of sulphadiazine and "mystecilin."

The resected part of the colon, 22 cm. long, was cut open. The wall of the upper part was hardened and thickened (5–7 mm.) and the lumen was narrowed (2 cm. in diameter). The wall of the lower part was 3–4 mm. in thickness and its lumen 3 cm. in diameter. Though the mucosal folds were well identified in the thin part, they seemed to have been smoothed out in the thicker portion and replaced by eroded areas with pseudopolypous formations. The mucosa was in general very congested, infiltrated, and oedematous. The thickened lower portion contained flat nodular masses, 1.5 to 2 cm. thick, which on section showed soft pinkish and in certain parts myxomatous round foci, 0.5–1 cm. in diameter. These masses were located between hard, fibrous, and whitish-yellow areas. In the serosa of the thin portion of the colon were two small, hard nodes with grey sections, and one red and soft node the size of a lentil.

FIG. 1.—Fungous cells in the macrophages.