Medical Memoranda

Ruptured Splenic Arterial Aneurysm during Parturition

Berger, Forsee, and Furst (1953) state that only 152 cases of aneurysm of the splenic artery have been reported in the literature since Crisp's description in 1847. They also note that prior to rupture the surgical mortality rate is approximately 15%, whereas after rupture the mortality rate approximates 100%.

Sheehan and Falkiner (1948) state that of the cases of splenic arterial aneurysm so far recorded in patients below the age of 45, 41 were in women. Furthermore, 23 of these 41 women were pregnant, and rupture nearly always occurred at seven to nine months' gestation. These authors analysed 163 routine obstetric necropsies and found that in the three following clinical conditions the spleen was commonly enlarged in the second half of pregnancy (weighing more than 200 g.): (1) severe anaemia of pregnancy, (2) accidental haemorrhage of the abruptio type, and (3) puerperal thrombophlebitis or gross septic endometritis. They considered that this splenic enlargement, with the presumptive changes in splenic blood supply, might be a predisposing factor in rupture of splenic arterial aneurysms in pregnancy. It is interesting to note that eclampsia and other toxæmias of pregnancy did not appear to be associated with pathological increase in the weight of the spleen.

In view of the rarity of ruptured splenic arterial aneurysm the following case is recorded.

CASE REPORT

The patient was a primigravida aged 22. Her expected date of delivery was October 11, 1953. Early in pregnancy the haemoglobin was 93%, and the Kahn reaction was negative. When she was 14 weeks pregnant the blood pressure was 140/70 mm. Hg and there was no albuminuria. No signs of pre-eclamptic toxæmia were present until she was 37 weeks pregnant, when the blood pressure rose to 160/110; there was no albuminuria at this time. At the 39th week she developed slight oedema; the foetus presented by the vertex in the left dorso-anterior position, and the foetal heart was heard. The head was not engaged, but could be pushed through the pelvic brim. The pelvic shape and measurements were normal. Her weight had increased by 23 lb. (10.4 kg.) in 16 weeks, and a trace of albumin was found in a catheter specimen of urine.

On admission to hospital on October 6 she looked well and had no complaints; the physical signs were as already noted. She was given amylobarbitone, $\frac{1}{2}$ gr. (50 mg.) t.d.s. and 3 gr. (200 mg.) at night. At 6 p.m. surgical induction was performed (hindwaters). At 7.30 p.m. uterine contractions were regular and strong, and the cervix was dilated two fingerbreadths, with the head in mid-cavity. Next day, at 1 a.m., the cervix was fully dilated. At 1.30 a.m. the mother's pulse was 88, the foetal head was advancing, and the foetal heart rate was 130 beats a minute. Uterine contractions were strong and occurred at two-minute intervals. At 1.40 a.m. a stillborn male infant was delivered. The placenta and membranes were expelled complete at 2 a.m.

At 6.30 a.m. the patient suddenly collapsed, the pulse became imperceptible at the wrist, and her blood pressure fell to 80/50; she was pale, sweating, and cyanosed. Restlessness and air hunger were pronounced, and there were no abnormal signs in the thorax or abdomen. Resuscitative measures were of no avail, and she died at 7.20 a.m.

Post-mortem examination of the baby revealed complete atelectasis of both lungs, with petechial haemorrhages in the serous membranes. The cause of death was intra-uterine asphyxia.

Post-mortem examination of the mother showed a well-nourished very pale young woman, with no obvious oedema. The heart showed slight hypertrophy of the left ventricle, and the myocardium appeared normal, but there were a few subendocardial petechial haemorrhages. In the greater sac of the peritoneal cavity 2 pints (1,140 ml.) of fluid blood was found, and in the lesser sac there was a similar amount of non-laminated clotted blood. On dissecting out the splenic artery an aneurysm was found, $\frac{1}{2}$ in. (1.3 cm.) in diameter, 1 in. (2.5 cm.) from the splenic hilum. There was considerable extraperitoneal extravasation of blood in the region of the pancreas. The haematoma had finally ruptured into the lesser sac. The spleen was collapsed but healthy; it was not weighed. The kidneys showed marked cloudy swelling of the cortex with partial obliteration of the cortical pattern. The anterior lobe of the pituitary gland was enlarged. Histological examination of the aneurysm revealed marked degeneration and fragmentation of both internal and external elastic laminae and thickening of the tunica media due to oedema and mucoid degeneration.

Probably the raised blood pressure produced by the pre-eclamptic toxæmia and the physical efforts in the second stage of labour precipitated the rupture. If this was the case, then, as in other reported cases, there was a latent interval between the rupture of the aneurysm and the final collapse, when the haematoma burst into the peritoneal cavity.

I am indebted to Mr. A. C. Pearson, under whom this patient was admitted, for his help and criticism in the preparation of this paper, and to Dr. J. W. Lacey for the pathological reports.

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Agranulocytosis Due to "Iodolysin"

"Iodolysin" is a drug used, mainly in general practice, in the treatment of minor rheumatic diseases. It consists of allylthiourea ethyl iodide, containing 43% allylthiourea and 47% of iodine. The purpose of this report is to draw attention to the occurrence of agranulocytosis as a side-effect of iodolysin therapy.

CASE REPORT

A 57-year-old woman was admitted to hospital on July 28, 1954, complaining of drowsiness, lack of strength, and frontal headaches. Her daughter stated that she had deteriorated mentally in the past year; her memory for recent events was poor, and she had become incontinent of urine. She had suffered from "rheumatism" in her legs for the past few months, for which her doctor had given her, on July 8, 48 iodolysin tablets, one to be taken twice a day. These she had taken as instructed. Three days before admission she had become febrile. On the day of admission she was unable to walk and travelled to the hospital by taxi.

On examination she was drowsy, delirious, and uncooperative. Her tongue was dry and she had several large boils on her chest with considerable surrounding cellulitis. Her temperature was 102.4° F. (39.1° C.), pulse rate 140, blood pressure 160/100. She had auricular fibrillation and slight ankle oedema. Her respiratory rate was 24 a minute.

Within four hours her temperature rose to 105° F. (40.6° C.). Her blood pressure fell to 140/90. Respirations were now 40, with crepitations at both lung bases. A provisional diagnosis of staphylococcal septicaemia was made, and she was given 500,000 units of crystalline penicillin intramuscularly three-hourly, 1 g. of streptomycin at once and 0.5 g. six-hourly; 1 mg. of digoxin was also given intravenously. A white-cell count at this time showed only 1,000 leucocytes per c.mm. The haemoglobin was 58%; blood urea, 68 mg. per 100 ml. Blood culture taken five hours after starting antibiotic treatment was sterile.

The day after admission a full blood count showed: red cells 3,340,000 per c.mm.; haemoglobin, 60%; colour index, 0.9; white cells, 1,900 per c.mm. (polymorphs nil, lymphocytes 65.5%, large mononuclears 33%, eosinophils nil, basophils nil); anisocytosis and poikilocytosis, slight; nucleated red cells, nil; platelets abundant; Türk cells, 1.5%. On the same day sternal marrow aspiration was reported as follows: "Erythroid series normoblastic and less active than normal; myeloid series very considerably reduced in numbers of myelocytes and polymorphonuclear cells; nucleated cell count, 10,600; platelets series, occasional megakaryocytes seen; platelets present in average numbers."

An E.C.G. on July 29 showed auricular fibrillation and left bundle-branch block. July 30: Hb, 64%; white cells, 2,200 (polymorphs 1%). July 31: Hb, 68%; white cells, 3,900 (polymorphs 2.5%). Thrush was noted in the mouth, with encrustations on the hard palate. Gentian violet (1% aqueous solution) was applied for five days. August 1: heart changed to regular rhythm; digitalis stopped. August 4: temperature fell to 98.4° F. (36.9° C.). She was much improved, but still doubly incontinent. August 6: antibiotics stopped; Hb, 70%; white cells, 11,200 (polymorphs 83%, lymphocytes 9.5%, large mononuclears 5%, eosinophils 0.5%, myelocytes 2%). August 7: red cells, 3,960,000; Hb, 70%; C.I., 0.89; white cells, 10,200 (polymorphs 69%, lymphocytes 20%, large mononuclears 8.5%, eosinophils nil, basophils nil, myelocytes 2.5%). Anisocytosis and poikilocytosis slight. August 12: red cells, 3,700,000; Hb, 68%; C.I., 0.91; white cells, 10,200 (polymorphs 71%, lymphocytes 22%, large mononuclears 6%, eosinophils nil, basophils 1%). Nucleated red cells nil.

On August 13 her skin lesions were well healed and the blood pressure had risen to 210/110. She was discharged.

DISCUSSION

Allylthiourea is a drug with marked antithyroid properties, and, like all the members of the thiourea-thiouracil group, has a toxic effect on the bone marrow which is apparently quite distinct from any allergic effects (McGavack and Chevalley, 1954). Morton (1947) has pointed out that in this group of drugs the phenomenon of agranulocytosis does not appear until the drug concerned has been given for a period of one or two weeks. In this case the patient had received medication for about 17 days before any side-effects became obvious.

Schultz (1922), in his original description of the syndrome of agranulocytosis, stressed the importance of faucial inflammation as a diagnostic point in agranulocytosis. This has since been stressed by numerous authorities (Whitby and Britton, 1950; Wintrobe, 1951). An interesting feature of the case reported here is the total absence of faucial inflammation in the acute phase, although treatment was later complicated by a monilial infection of the tongue and palate, after the return of polymorphonuclear leucocytes to the blood. It is now accepted that the pyrexia (which was so prominent a feature in this case) is due to infection, which becomes overwhelming in the absence of a polymorphonuclear response.

The most important step in the treatment of agranulocytosis is withdrawal of the offending drug. Provided this is done early and overwhelming infection by bacteria is avoided by adequate antibacterial therapy, the majority of cases spontaneously recover. Of course, the only absolute proof that the suspected drug is implicated is the demonstration of depression of the marrow for a second time under carefully controlled conditions. This was not considered a justifiable risk.

The antibacterial therapy used in cases of agranulocytosis should be of the bactericidal type preferably, and not of the bacteriostatic type: this really limits therapy to the administration of penicillin and streptomycin. Jawetz and Gunnison (1952) pointed out that chlortetracycline, chloramphenicol, and oxytetracycline are bacteriostatic. Obviously the use of a marrow poison such as chloramphenicol is contraindicated in the presence of marrow depression.

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Penicillin V

The excellent annotation in the *British Medical Journal* (1956) on the new oral penicillin V draws attention to what promises to be a most useful, effective, and popular therapeutic weapon. Since its discovery by Brandl, Giovannini, and Margreiter in 1953 much work has been done, largely on the Continent; the only published notes in this country are those by Bowerbank (1955) and Dove (1955). Through the kindness of Dr. W. P. Kennedy supplies of "distaquaine V," the Distillers Company (Biochemicals) brand of phenoxymethyl penicillin, were sent to us some months ago. Cases were placed at random alternately on oral penicillin V and intramuscular crystalline penicillin without any discrimination. Details of the first 24 cases are given in Tables I and II, printed on the next page.

These two tables compare the results of penicillin administration to two groups of 12 patients, 7 suffering from lobar pneumonia and 5 from other respiratory infections. The cases in Table I were treated with courses of oral penicillin (phenoxymethyl penicillin), 120 mg. stat. and 60 mg. four-hourly, except Cases 5 and 12, which were given double this dose. The course was given for five days or until three days had elapsed after the fever had settled, whichever was the longer. The cases in Table II were treated with intramuscular penicillin, between 1,000,000 and 1,200,000 units daily for a similar period. Cases were taken at random on admission, usually alternately, for inclusion in either of the two trial groups.

It will be seen that there is little to choose between the two groups as regards the site of disease, radiological findings, and white-cell response. Similarly, the clinical response of the two groups is roughly identical. Patients unquestionably prefer oral to injection treatment. The only side-effects noted in the group given oral penicillin were soreness of the tongue, lasting two days in two cases. There were no cases of diarrhoea or allergy in either group.

Since then we have treated several further cases of infection of the upper and lower respiratory tract; these have strengthened our impression that there seems little to choose between the oral and the intramuscular forms as regards therapeutic effectiveness. As it turned out, the group treated with intramuscular penicillin contained two more cases of bronchopneumonia than did the penicillin V group, which possibly explains the longer time spent in hospital by the intramuscular group—261 days as against 229 days in the oral group of cases. The total figures for duration of fever on therapy are 36½ days in the intramuscular group and 32½ in the oral, the small difference again being probably due to the two extra cases of bronchopneumonia in the intramuscular group.

The results in this small initial series of routine admissions into the same two wards of this hospital in the last three months makes us hopeful that here we have a useful and practical alternative to parenteral penicillin which should be particularly useful in busy general practice.

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