Management of Cases of Acute Barbiturate Poisoning

These cases are not very common, and frequently first come under treatment during the night. The remedies used are often employed in a half-hearted and haphazard fashion. The following programme is outlined for the management of severe cases in deep coma.

1. If there is marked respiratory depression restorative measures should be applied at once. Intravenous picrotoxin, 6 mg., should be given, and if there is no response 12 mg. every 30 minutes. Oxygen administration may be useful, and in extreme cases the use of a mechanical respirator should be considered.

2. When respiration is restored, or in less severe cases immediately on admission, the stomach should be washed out with 16 pints (9 litres) of saline. (The stomach contents should be retained for examination.) Twenty grammes of magnesium sulphate should be left in the stomach.

3. The intravenous administration of picrotoxin, 12 mg. every 30 minutes, should be continued. A careful watch must be kept for twitching of the facial muscles; picrotoxin must be stopped if this occurs, and amphetamine, 20 mg. at similar intervals, should be given. If the coma then deepens, picrotoxin, 6 mg., every 30 minutes should be restarted; otherwise amphetamine should be continued until the patient regains consciousness and for some hours after, in decreasing doses and at lengthening intervals.

4. If the patient shows no response after the first few hours it is desirable to cut down on a leg vein and set up a drip infusion. A plaster cast should be applied to the leg, otherwise as the patient becomes restless serious damage may occur. The analeptic drugs are given into the tubing of the drip. The fluid given should be glucose (5%) in varying concentrations of saline according to the urinary chloride content. The rate of flow must be regulated to maintain a good urinary output without causing any pulmonary oedema.

5. Rectal wash-outs should be done daily in order to remove any barbiturate in the lower bowel.

6. Milk by gastric tube should be given, and probably vitamin-B complex by intramuscular injection as long as a glucose drip is running.

7. To prevent pulmonary infection prophylactic penicillin should be given, also CO₂ and oxygen inhalations every two hours, and the patient should be nursed on his side and turned frequently.

In mild cases in which the patient exhibits spontaneous movements, a stomach wash-out is in many cases all that is needed; but if for any reason rapid awakening is desirable, one or two intravenous injections of 20 mg. of amphetamine at 30-minute intervals may be given. Some patients admitted shortly after the ingestion of the drug may present a deceptive appearance and should be watched carefully, since they may sink deeper into coma.

Summary

Intravenous amphetamine sulphate is a useful ancillary drug in the treatment of acute barbiturate poisoning. In mild cases in which rapid awakening is desirable it is effective and safe. In severe cases it is of little value in the early stages, but it may shorten the duration of coma if given later, particularly when picrotoxin is producing preconvulsive muscular twitchings.

A case is described in which the patient took 96 gr. (6.3 g.) of phenobarbitone 31 hours before admission to hospital. He recovered after 137 hours in coma. Treatment included 4,230 mg. of amphetamine sulphate and 1,086 mg. of picrotoxin.

A programme for the management of cases of acute barbiturate poisoning is outlined.

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PREGNANCY IN A RUDIMENTARY HORN OF A BICORNUATE UTERUS

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This case of pregnancy in a rudimentary horn is discussed at some length because of the great danger there may be to the patient. Unlike tubal gestation, in which less than 50% rupture and present the classical picture, 90% of the cases of pregnancy in a rudimentary horn rupture, and as this occurs about the sixteenth week the bleeding is profuse. Very little has been written on this subject recently, and the relatively high incidence of the condition is not generally realized.

Pregnancy in a rudimentary horn was first described by Mauriceau and Vassal in 1669. Kehrer in 1900 collected 84 cases from the literature, and Beckmann in 1911 found 146 cases. DeLee and Greenhill (1947) state: "Perhaps 100 cases have been described. Mulsow found reports of only nine cases since 1911." Mulsow (1945) himself, however, said: "With the aid of the librarian of the Iowa State Medical Library at Des Moines, I have been able to review the records of nine cases which have been reported since Beckmann's review in 1911." In the *Index Medicus* for the past 25 years we have found over 40 reported cases: in all probability, therefore, well over 200 cases have now been described.

Case Report

The patient was admitted to the Radcliffe Infirmary on January 15, 1950, complaining of severe abdominal pain of four hours' duration. She had had vague pain in the right iliac fossa for the past week, and had felt sick but had not vomited. Menstruation had been regular until September 16, 1949, since when there had been amenorrhoea. There was very little else of significance in her history except that she had a normal full-term pregnancy in 1946, a spontaneous breech delivery; also she had rather severe hyperemesis in the first three months of this pregnancy.

The patient looked distressed and was obviously very ill, with restlessness and air-hunger. The skin was cold and clammy,

and she had the typical pale waxy appearance indicative of sudden profuse loss of blood. The pulse was rapid and thready, and the blood pressure 70/30. The abdomen was slightly distended and there was extreme tenderness all over it. A soft mass was palpated in the pouch of Douglas. Bimanual examination was unsatisfactory because of the abdominal rigidity and distension. A provisional diagnosis of pregnancy in a ruptured rudimentary horn was made. Other conditions considered in the differential diagnosis were ruptured ectopic gestation and rupture of and haemorrhage from an ovarian cyst. Operation was decided upon soon after the patient had begun to respond to the initial shock therapy—warmth, $\frac{1}{2}$ gr. (11 mg.) of morphine, and blood transfusion (Group A, Rh-negative).

Under general gas, oxygen, and ether anaesthesia the abdomen was opened through a paramedian subumbilical incision. The abdominal cavity contained about four pints (2.27 litres) of blood. The foetus could be seen inside the intact amnion and was attached to the rudimentary horn. The normal horn was about the size of a 10-weeks pregnancy. The foetus and rudimentary horn and tube were removed leaving the ovary. The round ligament and ovary were then stitched to the normal horn for support and to cover the raw area. The remainder of the blood was removed from the peritoneal cavity and one pint (570 ml.) of saline inserted. The abdomen was closed in layers. The patient's condition was satisfactory at the end of the operation and the blood pressure was 100/60. She made an uninterrupted recovery (a pyelogram showed the renal tract to be normal).

On February 27 a blood transfusion follow-up showed: Group A, Rh-negative; complete anti-D antibodies, titre 1:2; incomplete anti-D antibodies, titre 1:2; haemoglobin, 92% (13.5 g.).

Discussion

It is said that the part of the rudimentary horn attached to the normal horn usually has no canal. Piquand (1910) states that there is a canal in only 15% of cases, but this is observed only when the uterus approaches the bicornis-unicollis type.

One may read in any textbook that the spermatozoon ascends the normal horn and Fallopian tube and crosses the peritoneal cavity to fertilize the ovum. The fertilized ovum then gets into the rudimentary horn. This explanation seems untenable, and we are of the opinion that the rudimentary horn is not occluded until after pregnancy in most cases, for the following reasons:

1. It is improbable that one spermatozoon can fertilize an ovum, and it is very unlikely that a sufficient number of spermatozoa can find their way across the peritoneal cavity. A large number of spermatozoa are required to fertilize an ovum because of the hyaluronidase content required to "dissolve" off the corona radiata surrounding the ovum. A man with 10 million spermatozoa per ml. is virtually incapable of becoming a father because somewhere in the region of 50–100 million spermatozoa per ml. is thought necessary.

2. The corpus luteum is usually found on the same side as the rudimentary horn. On rare occasions it has been reported that the corpus luteum was found on the opposite side, the fertilized ovum then crossing the peritoneal cavity (internal migration of the ovum cannot always be excluded in these cases). With prolapse of the ovaries the tubes may be almost lying side by side, which may account for a few of these anomalies. It is well known that an ovum may cross the peritoneal cavity as in the cases of pregnancy reported after previous contralateral removal of tube and ovary.

3. Many cases show a canalization of the distal end of the rudimentary horn, and this canal leads into the cavity of the normal horn, as illustrated by Munro Kerr and Chassar Moir (1949). The canal was easily demonstrated in the case described.

4. The microscopical examination of the canal is almost invariably made after a pregnancy has occurred. The canal could easily have been occluded by the tissues reacting to the advancing syncytium and by the fibrin laid down in the small haemorrhages. To a less degree a similar occlusion can be found in the Fallopian tube in ectopic gestation.

5. The cervix uteri in comparison is occasionally completely occluded during pregnancy in conglutination of the cervix, which may happen after trauma and mild infection at a previous pregnancy. The canal may be so obliterated that no evidence of it can be found, but, as in the case of the rudimentary horn, the spermatozoa must have got in before the canal was occluded.

6. A case described by Banister (1937) lends further support to our contention. In this case an ovarian cyst was thought to be complicating pregnancy. At laparotomy a four-months foetus was found in a normal horn and a three-months foetus in a rudimentary horn. If this is a case of superfoetation or superfecundation it is possible that the pregnancy in the normal horn occurred first. Before the uterine cavity was completely filled the other conception took place. The rudimentary horn was attached near the cervix of the normal horn. (It is possible that the foetus in the rudimentary horn was growing more slowly because of the poor "soil.") The pregnancy in the rudimentary horn was removed and the other pregnancy went to term and resulted in a spontaneous delivery of a normal child.

7. Pregnancy in a rudimentary horn has been shown not to be extremely rare, and if the horn were not canalized one would expect to see more cases of haematometra. Of course it must be admitted that they occasionally do occur, and, furthermore, it has been said that the endometrium in the rudimentary horn is infantile and refractory to hormonal stimulation.

Summary and Conclusions

A case of pregnancy in a rudimentary horn is described and its aetiology discussed.

Pregnancy in a rudimentary horn is more frequently encountered than one is led to believe by many textbooks. We are of the opinion that the theory of transabdominal migration of a spermatozoon is untenable, and that if a patient gets a pregnancy in a rudimentary horn the canal of that horn is patent before pregnancy in almost every case.

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The Society for the Rehabilitation of Disabled and Crippled Children (of India) has issued its first annual report, covering the period March, 1947, to December, 1948, with a postscript on 1949. It is the first time in India that something is being done to provide organized physiotherapy and orthopaedic treatment for children after poliomyelitis, or with spastic paralysis. The Society's out-patient clinic in Bombay is housed in a military hut loaned by the Government of Bombay and equipped by private donors; it is staffed by a number of ex-Army physiotherapeutic technicians and voluntary social workers. Up to the end of September, 1949, about a thousand patients had registered for treatment, over 800 of them poliomyelitis cases.