

PLACENTA PRAEVIA: REPORT ON A SERIES OF 538 CASES (1938-1962)

BY

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DURING the last 24 years at Hillingdon Hospital there have been 538 cases of placenta praevia. As this is a large number of cases from any one hospital, this series has been analyzed. Cases have been taken first as a whole, and then divided into two 12-year periods, to show differences in management and results.

During the earlier period antenatal care in the district was not so good, and slight bleeding was sometimes overlooked. There was no "flying squad", and there was no blood bank. Blood donors had to be fetched from their homes, and only one pint of blood could be taken from one donor. The obstetrician was usually working single-handed, and had to treat the patient and collect blood from the donor at the same time. During these years the rhesus factor had not been discovered.

Caesarean section was then performed less frequently, and antibiotics had not been developed.

THE PATIENTS

Race. It is only during the last few years that there has been a significant number of coloured patients in this hospital, and this may be the reason why all the patients in this series were white, with the exception of one Indian patient.

Age. Figure 1 shows the percentage of cases in each five-year age group.

Parity. The parity of the patients is shown in Figure 2.

Twins. There is said to be an increased risk of placenta praevia with a twin pregnancy, because of the larger placenta. In this series there were 7 pairs of twins—a frequency of 1 in 77 deliveries.

Recurrent Cases. Placenta praevia recurred in only 6 cases in this series, an incidence of just over one per cent. One patient had a placenta praevia with three successive pregnancies.

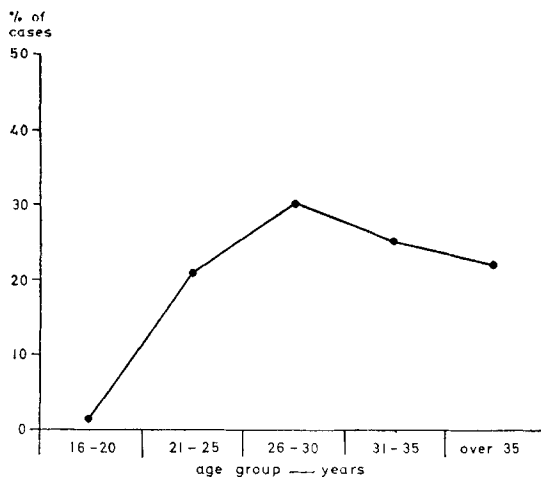


FIG. 1

Placenta praevia. Percentage incidence in age groups.

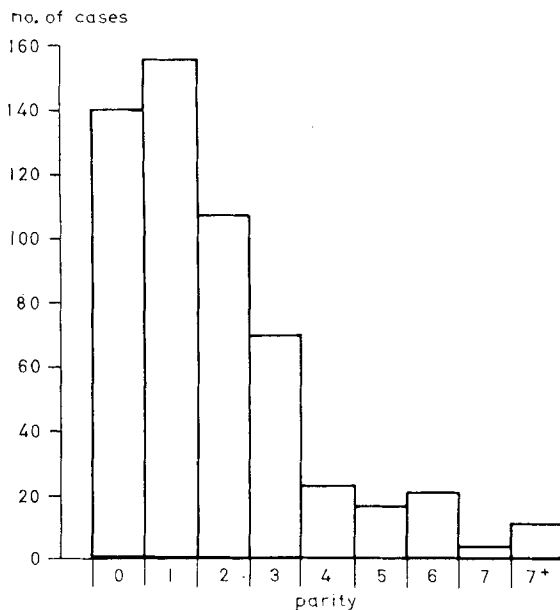


FIG. 2

Placenta praevia. Parity of patients.

SIGNS AND SYMPTOMS

Painless, causeless bleeding was the first sign in 70 per cent of the cases. Pain alone was the first symptom in 2 per cent, and pain with bleeding in 9 per cent. There was no bleeding at all during pregnancy in 19 per cent of the cases; and in many of these placenta praevia was discovered unexpectedly at Caesarean section or was not suspected until an attempt at surgical induction had been made, either for toxæmia or postmaturity. In such cases the placenta was felt through the cervix, or brisk bleeding occurred, and an immediate Caesarean section was performed. In other cases placenta praevia was suspected either because of a persistent transverse lie, or because of a high head which would not engage in a patient with an apparently adequate pelvis. In a few cases brisk bleeding occurred after spontaneous onset of labour at term. In any doubtful case in this group the patient was examined under anaesthesia before proceeding to Caesarean section.

Time of Onset of Bleeding

The commonest time of first bleeding was at about the 32nd week, but it was often noticed before the 28th week and was seen as early as the 12th week in one case (Fig. 3). Some cases classified as miscarriages are due to placenta praevia and there were two definite instances at 24 weeks when the placenta was delivered first and the foetus some time later.

Amount of Bleeding

It was impossible to assess accurately the amount of bleeding, and therefore it has been noted as slight, moderate or heavy. Slight loss indicates a show only, moderate loss about 10 ounces, and heavy loss any amount over 10 ounces.

Blood loss in relation to the type of placenta praevia is shown in Figure 4. This result is what would have been expected, but it is interesting to note that heavy loss can occur with Type I, and that some cases of Type IV have no bleeding.

DIAGNOSIS

Any case of painless, causeless bleeding, with an ill-fitting presenting part, is admitted to hospital and kept there until delivery. X-rays

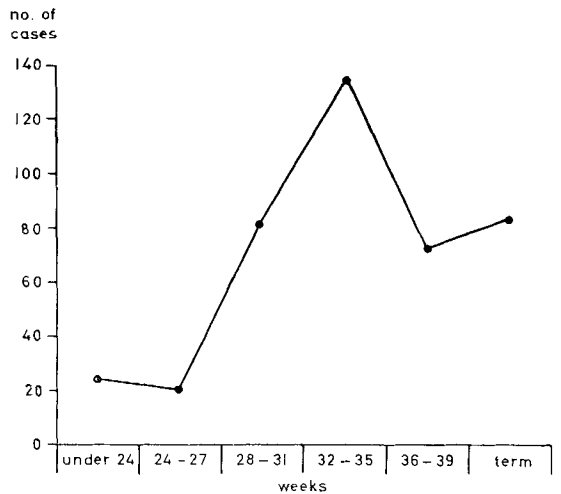


FIG. 3
Placenta praevia. Time of onset of bleeding.

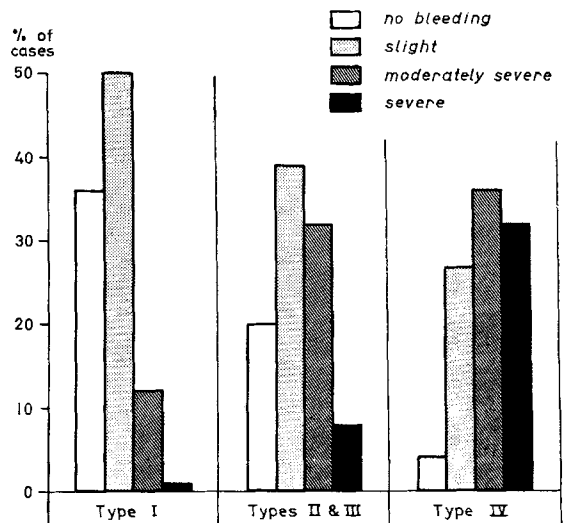


FIG. 4
Placenta praevia. Amount of bleeding.

can be of help in diagnosis, but to get a clear soft-tissue X-ray requires special technique which is not always available in a general X-ray department. In this hospital we have found X-rays to be of little help, and very few are taken.

Diagnosis can only be made with certainty by seeing or feeling the placenta in the lower uterine segment. Vaginal examination may cause severe bleeding, necessitating immediate delivery, and for these reasons such examinations

TABLE I
Uncorrected Perinatal Mortality in Relation to Method of Delivery

Method of Delivery	No. of Cases	Perinatal Deaths	Percentage
Natural forces or forceps including surgical induction ..	51	13	25
Normal delivery after Willett's forceps	26	14	54
Plugging with the half breech	10	9	90
Caesarean section all cases	451	59	13
1951-1962			
Caesarean section	337	31	9.2
Other methods	28	7	25

should only be made under anaesthesia in the operating theatre. But inspection of the cervix is essential in all cases of slight or moderate bleeding, to exclude carcinoma of the cervix and other pathology. A vaginal speculum can be passed gently without danger of bleeding, and this should be done on, or shortly after, admission.

TREATMENT

The following methods of treatment have been used in this series:

- (1) Simple rupture of the membranes.
- (2) Willett's forceps.
- (3) Plugging with the half breech.
- (4) Vaginal plugging.
- (5) Caesarean section.
- (6) Expectant treatment followed by Caesarean section.

Uncorrected perinatal loss in relation to the method of delivery is shown in Table I.

The highest foetal mortality, i.e., 90 per cent, occurred after plugging with the half breech, but normal vaginal delivery carried a mortality of 24 per cent, the delivery being either spontaneous or after induction. Over the last 12 years, the use of Willett's forceps and plugging with the half breech have been discarded. Caesarean section in this group has given a perinatal loss of 9.2 per cent, whilst all other methods of delivery show a 25 per cent loss.

The difficult case is the one in which a patient has had a severe haemorrhage at home and is admitted in shock, still bleeding. If these patients are operated on immediately they will die of irreversible shock. It is no good relying solely upon blood transfusion, because the placental

site is so large that blood is lost far more quickly than it can be given intravenously. Haemorrhage from the placental site does not appear to stop with a drop in blood-pressure, so that it is a matter of extreme urgency to produce haemostasis.

We have found in such cases that severe bleeding from the placental site can be stopped temporarily by a tight vaginal pack and abdominal binder. With the patient in the lithotomy position, two whole rolls of gauze, nine inches wide and one yard long, are soaked in antiseptic and introduced with sponge forceps with the aid of a Sim's speculum into the vagina, care being taken to pack tightly in the fornices. No anaesthetic is required for this; the case is too urgent, and the patient too ill to feel much discomfort. A tight abdominal binder is then applied.

The criticism has been made that such a pack only hides, and does not stop, the bleeding, but with this I do not agree. Anyone who has tried to resuscitate a patient with blood transfusion alone, without a vaginal pack, will appreciate the impossibility of keeping up with severe vaginal loss. In our experience packing of the vagina is an effective method which can be used by the flying squad in the patient's own home and, when followed by transfusion, greatly helps to get the patient into a safe condition for removal to hospital.

In the "Confidential Enquiry into Maternal Deaths, 1958-1960" one "avoidable factor" was repeatedly shown to be the transfer of these patients in an ambulance while still bleeding, instead of first calling the flying squad.

Once bleeding is controlled, transfusion is given until the blood-pressure has reached the

level of at least 100/70 mm. Caesarean section can then be considered, whether the foetus is alive or not.

Though these cases are rare, they are important, because of the danger of rushing a severely shocked patient up to the theatre before any real attempt has been made to replace blood loss. Intra-uterine death will have occurred in many of these cases of severe bleeding, but the treatment of the condition should not be influenced by this fact.

Complications of Caesarean section in Cases of Placenta Praevia

Lower segment Caesarean section was performed in nearly every case. In most cases the operation was straightforward, but the following complications arose:

(1) *Grossly Dilated Veins Over the Lower Segment*

In 48 cases (10 per cent) distended veins were seen over the lower uterine segment, running parallel to the uterine axis. Such veins were of the thickness of a finger and could not be avoided in a lower segment incision. In 41 of these cases the lower segment incision was used and the veins collapsed after incision without causing excessive bleeding. In 7 cases the veins were considered to be too prominent and a classical Caesarean section was performed in preference to the lower segment incision.

(2) *Severe Bleeding During Examination Under Anaesthesia*

This occurred in 27 cases (6 per cent) in spite of very gentle examination. In 3 cases the bleeding was torrential, and a tight vaginal pack had to be inserted as a temporary measure. Because of this danger vaginal examination before Caesarean section was avoided, even in the operating theatre, whenever the diagnosis was reasonably certain.

(3) *Excessive Bleeding During Operation Other than in the Cases Already Mentioned*

This occurred in 16 cases (3.5 per cent) and usually arose from grossly dilated broad ligament veins, torn by extension of the lower segment incision. The risk of this dangerous complication is widely known, but it is doubtful

whether sufficient emphasis is placed on it in our teaching. In two cases Caesarean hysterectomy was performed.

(4) *Bleeding After Operation, Requiring Vaginal Packing*

This occurred in 8 cases (1.8 per cent) of central placenta praevia. It arose in most cases after the patient had returned to the ward, and came from the lower segment. It was controlled only by plugging the lower segment from below, and leaving the plug for 24 hours. Here again is a complication which, while it may be well-known to obstetric surgeons, is not appreciated by other members of the profession who arrange for these cases to be admitted, and treated in small unsuitable hospitals and maternity homes.

(5) *Morbidly Adherent Placenta*

This occurred in 12 cases (2.6 per cent). One of these cases was a placenta accreta and Caesarean hysterectomy was performed.

RESULTS

Maternal Deaths

There were 7 deaths in the whole series. From 1938 to 1950 there were four deaths (2.4 per cent). From 1951 to 1962 there were three deaths (0.8 per cent).

In the first group, three cases were due to haemorrhage and one was unrelated to placenta praevia, being due to acute hepatic failure, a placenta praevia Type I being discovered post-mortem. There have been no deaths from haemorrhage since 1948.

There were two cases of pulmonary embolism and one case of acute hepatic failure entirely unrelated to placenta praevia.

The great difference in the maternal death rate and perinatal loss in the two groups of cases demonstrates quite clearly the tremendous improvements that have occurred in the last decade in the management of this dangerous condition.

Perinatal Mortality

The uncorrected perinatal mortality rate from 1938 to 1950 was 31 per cent. From 1951 to 1962 the rate was 9.6 per cent.

The total number of stillbirths was 29. Of these, 19 were due to separation of the placenta,

TABLE II
Uncorrected Perinatal Mortality in Relation to Maturity at Delivery

Duration of Pregnancy in Weeks	No. of Cases	Perinatal Deaths	Percentage
28-30	12	7	58
31-32	19	11	57
33-34	41	11	27
35-36	106	31	30
37-38	116	9	7.7
39-40	189	10	5.3
41-42	17	2	12

4 to anencephaly, 3 to cord complications and one each to cerebral haemorrhage, erythroblastosis and intra-uterine death in a case of maternal pneumonia.

There were 59 neonatal deaths, of which 50 were due to prematurity with pulmonary complications, 8 were due to gross congenital malformations and one to infection.

Uncorrected Perinatal Mortality in Relation to Maturity (Table II)

As would be expected, perinatal loss is directly related to maturity. The mortality at 31-32 weeks was 57 per cent, whilst that from 33-36 weeks was 29 per cent, i.e., only half as many. The loss from 37-38 weeks dropped to 7.7 per cent and to 5.3 per cent at 39-40 weeks, whilst the loss of postmature babies again rose steeply to 12 per cent. It is obviously an advantage to postpone delivery until at least 37 weeks if possible.

Uncorrected Perinatal Mortality in Relation to Amount of Haemorrhage

It is to be expected that perinatal loss in cases of severe bleeding would be much greater than in cases where bleeding was absent or slight. The perinatal mortality was 26 per cent in cases of severe bleeding and 10 to 11 per cent in cases of slight bleeding.

DISCUSSION

The modern treatment of placenta praevia commenced with the work of Macafee (1945, 1962). His success was due to his earlier recognition and more adequate treatment of the condition—thus reducing maternal mortality—and to

his introduction of the method of expectant treatment to reduce perinatal loss.

In the last "Confidential Enquiry into Maternal Deaths, 1958-1960" the number of patients dying from placenta praevia was given as 25 whilst the number of patients dying from placenta praevia from 1955 to 1957 was 28. There was a slight decrease in the total number of cases, but the disturbing fact was that the proportion of cases with avoidable factors had increased from 43 to 76 per cent.

These factors were as follows:

- (1) Poor antenatal care.
- (2) Failure to take notice of warning haemorrhage.
- (3) Vaginal examination at home.
- (4) Placing the patient into an ambulance whilst bleeding, instead of calling for the flying squad.
- (5) Inadequate treatment in hospital.

In this series, there were three deaths from haemorrhage, all occurring prior to 1948. One case was admitted in a state of shock and taken to the operating theatre before she was fit. One case was allowed to deliver vaginally, though she was bleeding throughout labour. The third case was delivered by Caesarean section, but renal failure occurred 7 days after delivery. In the second half of this series no death occurred from haemorrhage, but two patients died of pulmonary embolism after Caesarean section.

The other 2 deaths in this series were from acute hepatic failure—placenta praevia being an incidental finding and not giving rise to bleeding.

The greatest improvement in the second half of the series is shown in the reduction of perinatal loss from 31 to 9.6 per cent. The greatest

single factor causing neonatal death is prematurity with pulmonary complications, and it is this factor which has been diminished by the use of expectant treatment.

Perinatal loss after Caesarean section in the period 1951-1962 was 9.2 per cent, whilst the loss after all other methods of delivery was 25 per cent. The value of Caesarean section is that it prevents stress of labour and further placental insufficiency in a case where there has already been some placental separation.

There were 29 stillbirths in the series, of which 19 occurred in the first twelve years and 10 in the second. The biggest single factor here was separation of the placenta.

In the future our aim must be to prevent all maternal deaths from placenta praevia through-

out the country, and to reduce the perinatal loss. This can only come to pass if the condition is suspected early, and every patient is admitted to a hospital with a large, well-equipped obstetric department, for observation and adequate treatment.

ACKNOWLEDGMENT

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