

THE PRESENT DAY TREATMENT OF PLACENTA PRÆVIA¹

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BY placenta prævia is meant the development of part or all of the placenta in the zone of dilatation of the uterus. We generally consider three degrees of this condition, namely: (1) central or total placenta prævia in which the placenta completely covers the internal os; (2) partial or lateral placenta prævia in which the placenta covers only part of the internal os; and (3) marginal placenta prævia in which the lowest edge of the placenta just reaches the internal os. The strict differentiation of these types should not be made until the cervix is fully effaced and dilated, but we generally institute treatment long before this stage is reached.

INCIDENCE AND ETIOLOGY

The incidence of this obstetrical complication is difficult to determine, because statistics from various parts of the world indicate that in some places it occurs once in 130 cases and in other regions only once in 1,500 cases. The exact cause is unknown but a large number of women have previously had some endometrial disease or disturbance. Multiparæ are affected about ten times as frequently as primiparæ. The more the number of children and the greater the rapidity with which the pregnancies follow each other, the greater is the incidence of placenta prævia.

DIAGNOSIS

The diagnosis of placenta prævia is relatively easy. Textbooks teach that a painless, causeless, uterine hæmorrhage in the third trimester of pregnancy is almost pathognomonic of placenta prævia. Regardless of the amount of blood lost during the first hæmorrhage, unless treatment is instituted, there are recurrences of bleeding each of which is generally greater than the preceding one. Labor usually begins after the second or third hæmorrhage. If on vaginal examination a portion of the placenta is found lying over the internal os, the diagnosis of placenta prævia is confirmed, provided we rule out the very rare instances of prolapse of the normally implanted placenta.

It must be borne in mind that in nearly all cases of placenta prævia, the diagnosis can be made without a vaginal examination. This and even rectal examination may be dangerous procedures because of the serious bleeding which may

result. An internal examination should not be made unless all preparations are at hand for the proper and aseptic control of bleeding should this occur. Patients who have a hæmorrhage should be sent to a hospital without preliminary internal examination.

Sources of bleeding other than placenta prævia such as polyps, varicose veins, the bladder, and carcinoma of the cervix can easily be eliminated by a careful examination. However, it may be difficult to differentiate placenta prævia from abruptio placenta, especially if there is partial separation of a low lying placenta. There may also be confusion with rupture of the uterus, ectopic gestation, and bleeding from a vessel which passes over the cervical os because of a velamentous insertion of the cord. However, most of these conditions make hospital care imperative; hence a physician will do the proper thing if he sends to a hospital all patients who have hæmorrhage from the vagina.

MORTALITY

The mortality from placenta prævia varies considerably in different parts of the world and in different localities of any particular country. According to De Lee the maternal mortality reported from twenty different sources varies from 1 to 19 per cent and the fetal mortality varies from 10 to 80 per cent. Hitschmann, in 1921, collected 6,438 cases and found a total maternal mortality of 6.5 per cent and a total fetal mortality of 40 per cent. However, it is generally agreed that collective statistics are hard to evaluate. Much depends upon the condition of the patient, the duration of pregnancy, the type of placenta prævia, the surroundings of the patient, and the skill of the attending physician.

Most of the maternal deaths in placenta prævia are due to hæmorrhage, septicæmia, and rupture of the lower uterine segment. The fetal deaths are generally due to asphyxia (from diminished or absent blood supply), prematurity, injury during version or extraction, and monstrosities.

TREATMENT

There are four commonly used methods of treating placenta prævia, namely: rupture of the membranes with or without firm packing of the vagina, Braxton Hicks podalic version, the

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colpeurynter, and caesarean section. The type of operation to be performed in any case will depend upon the degree of placenta praevia, whether the patient is in labor or not, the amount of dilatation of the cervix, the surroundings, the condition of the mother and the child, and the skill of the attending physician.

At the outset it may be said that a distinction should be made between treatment in the home and treatment in a hospital. As previously mentioned, every patient who has a placenta praevia should be sent to a hospital. Nowadays with the large number of hospitals available and with the aid of automobiles and auto ambulances, which greatly facilitate and hasten transportation, there is practically no excuse for treating a patient with placenta praevia in her home. Furthermore, unless a woman is bleeding very actively when the physician arrives, it is not necessary to pack the vagina. In the few cases where this is imperative the greatest aseptic precautions should be taken, and sterile, cotton pledgets are much better for packing than gauze. The packing should fill the entire vagina firmly and counterpressure should be made from above with a firm abdominal binder.

If a patient must be treated in her home, a careful vaginal examination should be made, and, if the cervix is undilated, it is best to rupture the membranes and combine this with a firm vaginal pack consisting of cotton pledgets. When it appears that there is sufficient dilatation of the cervix, a Braxton Hicks version should be performed. Complete relaxation of the abdomen and uterus are necessary for this, hence an anaesthetic must usually be given for a few minutes. One foot is brought down with the fingers or with a long placenta forceps. The breech of the fetus is thus used as a tampon to control bleeding. The physician must wait for nature to expel the child and he should not leave the patient until the child and placenta are delivered and all bleeding has ceased. Haste in delivering the fetus through a partially dilated cervix will in many cases result in deep lacerations of the lower uterine segment with much haemorrhage which is difficult to control. Never should the cervix be dilated rapidly by means of the hand or instruments because extensive tears usually result and death is the frequent termination. Salt solution or a blood transfusion should be given at home as well as in a hospital.

In a hospital the treatment will vary with many conditions. If the patient is in labor and there is complete effacement and dilatation of the cervix, the child should be delivered by forceps or version and extraction, depending upon the station of the head. If the cervix is not completely dilated, and

there is not much placental tissue over the internal os, rupture of the membranes may suffice. If the child is dead or not viable and there is considerable placental tissue over the cervix, a Braxton Hicks version may be performed and a leg brought down. Extraction should not be completed until the cervix is sufficiently dilated to permit very easy extraction of the fetus. This treatment is identical with that which can be carried out in a home for similar conditions. However, in a hospital if the child is alive, a metreurynter may more properly be inserted into the lower uterine segment after rupturing the membranes or tearing through the placenta. The bag should be sufficiently large, so that after it is forced through the external os there will be enough dilatation of the cervix to permit passage of the fetal head or easy version and extraction. A liberal amount of mercurochrome, hexylresorcinol or other safe antiseptic should be poured into the vagina preparatory to and with the insertion of the bag as well as for any manipulation through the vagina.

Very little traction should be made on the bag, and pituitrin should never be given before delivery of the child. The physician must carefully watch the patient and determine, especially by rectal examination, the exact time when the bag is almost ready to be expelled from the cervix. Preparations should then quickly be made for delivery because not infrequently there is considerable bleeding after the bag slips through the cervix. If the head follows the bag through the cervix, the baby should be delivered without delay either by permitting it to come out spontaneously or with the aid of forceps. If, however, the head remains high, version and extraction should be performed, provided there is sufficient dilatation of the cervix. If there is incomplete dilatation, version alone should be performed but not extraction, because a rupture of the lower uterine segment might result.

The treatment of the third stage is very important because additional haemorrhage at this time, even though small in amount, may be fatal to the patient. If there is little bleeding one may safely wait for spontaneous separation of the placenta. If, however, there is active bleeding, the placenta should be removed manually, but under the strictest aseptic precautions. The patient may be saved from a death due to haemorrhage but she may die of sepsis, unless the technique of invading the uterus is as perfect as possible. An antiseptic such as mercurochrome or hexylresorcinol may here be used advantageously. If bleeding continues after removal of the placenta, one must make certain there is no rupture of the uterus. If there is none and pituitrin fails to arrest the

hæmorrhage, the uterus and vagina should be packed firmly without delay. Rupture of the uterus may be treated by tamponade or by laparotomy, depending upon the conditions present, but preferably by laparotomy.

Another expedient of controlling hæmorrhage, which is relatively simple and safe, is temporary clamping of the uterine arteries from below, by means of bullet forceps placed on the broad ligaments (Henkel) or ligation of these arteries with sutures (H. Miller-Kerwin). Likewise, compression of the aorta with the hand, or an aorta compressor applied for a few minutes, may enable the physician to make preparations for the control of hæmorrhage.

Occasionally a patient refuses to have the uterus emptied because the child is not viable. One may temporize only if the bleeding is slight and the patient is willing to remain in a hospital until she is delivered. The uterus should be emptied as soon after viability as possible. The risk of repeated and more profuse hæmorrhages is too great to permit a patient to remain at home and even in a hospital undelivered.

The most modern treatment of placenta prævia is by means of cesarean section. A few individuals like Duehrssen, Doederlein, Essen-Moeller, and E. Martin employ the vaginal route; but most obstetricians who deliver placenta prævia patients by cesarean section employ the abdominal route.

According to De Lee, four objects should be accomplished in the treatment of placenta prævia, namely: the hæmorrhage should be stopped, the uterus emptied, hæmostasis insured, and anaemia combated. The most certain way to empty the uterus, control the bleeding during delivery, and prevent postpartum hæmorrhage is abdominal cesarean section. This operation combined with blood transfusion before, during, or after the operation, yields better results than does any other procedure used in the treatment of placenta prævia. At the Chicago Lying-in Hospital, the total maternal mortality in a series of 118 cases of placenta prævia was 2.6 per cent. Of the 3 deaths, one followed spontaneous delivery and the two others occurred after version and extraction. Cesarean section was performed 42 times, and there was not a single maternal death in this group. Hence the mortality for the so-called conservation methods was 3.9 per cent. Eight of the cesarean sections were classic and 34 were low, cervical ones.

Bill recently reported a series of 45 cases in which cesarean section and transfusion were not very frequent and in which the maternal mortality was 11.1 per cent. He compares this group with a series of 56 cases in which 71.4 per cent were de-

livered by cesarean section, with only one death (1.78 per cent). Blood transfusion seemed to be indicated in about one-fifth of these cases.

Frey, in Zurich, reported a series of 88 consecutive cases of placenta prævia all of which were delivered by cesarean section and only one mother died. The cause of death was an inoperable gastric carcinoma and ileus. In the discussion of this paper Labhard said in an almost similar number of cases treated by abdominal operation, he did not lose a single mother.

In Germany the number of advocates of cesarean section for the treatment of placenta prævia has recently increased considerably. Not only are clean cases being treated by abdominal operation but also those in which vaginal examinations were made without regard to asepsis. In a series of 168 cases of placenta prævia von Mikulicz-Radecki reported a maternal mortality of 11.5 per cent for the older methods and only 3.3 per cent for cesarean section. In a recent paper Korthauer points out that in his series, the maternal mortality for patients delivered by version and extraction was 50 per cent; for those delivered by Braxton Hicks version, 11.1 per cent; and for those on whom cesarean section was done only 6.9 per cent.

Siegal advocates abdominal cesarean section for placenta prævia in every case which has advanced beyond the thirty-second week, regardless of whether the child is dead or alive, to avoid danger to the mother. The danger consists in laceration and lack of retraction of the isthmus, which can occur whether the fetus is dead or alive. Kellogg, of Boston, believes that all patients with central or partial placenta prævia are best treated by abdominal cesarean section whether the baby is viable or non-viable, living or dead.

From the foregoing it appears that cesarean section yields the best results in the treatment of placenta prævia for patients who are in hospitals and in the hands of specialists. We at the Chicago Lying-in Hospital advocate the cervical type of operation (laparotrachelotomy), because of its numerous general advantages over the classic operation. At this hospital in a series of 807 cervical cesarean sections, there were only 9 deaths from all causes, an incidence of 1.1 per cent. I, personally, have performed 101 low cervical cesarean sections without a single maternal death. This series includes private patients, patients seen in consultation, and ward patients treated at the Chicago Lying-in Hospital. The cervical section permits careful inspection of the lower uterine segment which is the usual source of the severe hæmorrhage in cases of placenta prævia. Not infrequently a large torn sinus

will be found in the lower uterine segment, and bleeding from this sinus can easily be controlled by suture. Such bleeding sinuses can seldom be seen during the course of a classic operation and they may continue to bleed not only during, but also after the operation. There is no more reason to fear encountering the placenta when performing the low operation than when doing the classic one. If there is a strong suspicion of infection in a patient who has a number of living children it is wiser to perform a Porro operation. The recovery is then much smoother. If definite infection is present and a caesarean operation is done, the uterus should be amputated regardless of the number of living children the patient has, unless one is willing to perform the Gottschalk-Portes exteriorization operation.

Because of the not infrequent association of fetal monsters with placenta prævia as shown by the author, one should not too strongly advocate abdominal operation in the interest of the baby without first making reasonably certain it is not a monster. At the Chicago Lying-in Hospital during the past 9 years, almost half of the monsters encountered were associated with placenta prævia. This condition can usually be detected by means of an X-ray picture. If a patient has a central or partial placenta prævia and has lost a great deal of blood, a caesarean section should be done even in the presence of a monster, because the operation is performed in the interests of the mother and not the child. If a patient has suffered much loss of blood, she should be transfused, preferably before operation. If a blood transfusion is not deemed necessary or cannot be given, glucose or saline solution should be administered subcutaneously or intravenously. Furthermore, to eliminate an additional serious risk, local anaesthesia should be used wherever possible. Even if a Porro operation is necessary this also may readily be performed under direct infiltration anaesthesia as described.

All danger is not over with the operation. The patient must be watched for postpartum hæmorrhage, but this rarely occurs after the cervical caesarean section. Sepsis is another serious complication and this likewise is much less frequent following laparotomy than after extensive vaginal manipulation. Transfusion should be repeated if necessary.

SUMMARY

In recapitulation I should like to urge that all patients who have a painless, causeless hæmorrhage in the last trimester of pregnancy be immediately sent to a hospital without having a vaginal examination made and without a vaginal pack unless this is absolutely necessary. Because

of paved roads, smooth-running automobiles, and the large number of accessible hospitals, there is seldom need to treat a patient with placenta prævia in her home or to pack the vagina before sending her to a hospital. I believe the best treatment for cases of central or partial placenta prævia is the low cervical caesarean section under local anaesthesia. Blood transfusion should be thought of and used more frequently than it is today. In infected cases the uterus should be amputated after the baby is removed. For cases of marginal placenta prævia and for a certain proportion of cases of partial placenta prævia, the older methods such as rupture of the membranes, with or without vaginal tamponade, Braxton Hicks version, and metruerisis should be employed. As De Lee points out, in former years when confronted with a case of placenta prævia, we first thought of the old methods of treatment and only lastly of caesarean section. Now the process is reversed for we usually think of caesarean section first.

In this paper little consideration has been given the child because it is secondary in importance to the mother. However, caesarean section is the most certain way of delivering a baby alive, and it will save every baby which is not too premature or a monstrosity. In cases of central or partial placenta prævia with severe hæmorrhage, the abdominal route is advocated regardless of the condition of the child. Placenta prævia is unfortunately one of the conditions which will continue to occur for a long time, because as yet, we know no certain way of preventing it. Our aim, therefore, is to prevent loss of life, and this can best be accomplished in severe cases by the cervical caesarean section.

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