THE PROBLEM OF HÆMORRHAGE IN OBSTETRICAL PRACTICE*

By W. B. Hendry, B.A., M.B.,

Toronto

THE problem of hæmorrhage in pregnancy and childbirth is of extreme importance to both the public and the medical profession; it plays a tragic part in the vital statistics of this continent. Standing, as it does, third in the list of the causes of maternal death it is a constant reproach to the profession and a menace to the natural increase of the population. At least one-half of the deaths from hæmorrhage could be prevented if both expectant mothers and doctors realized its danger and took proper steps to control it. But it seems to be almost impossible to bring home to everybody the significance of uterine hæmorrhage occurring during pregnancy and the necessity of checking it.

For many years it was, and still is, a popular belief that menstruation could and occasionally did occur regularly during pregnancy. However, the work of Allen and Doisey, Aschheim, Zondek, and a host of other biochemists has exploded that belief, and it is now accepted that any uterine hæmorrhage occurring after pregnancy has been established threatens the stability of the pregnancy and may endanger the life of the fetus and of the mother.

In the first trimester hæmorrhage usually means one of three things—abortion, ectopic gestation, or hydatidiform mole. Of these, the first mentioned is by far the most common, the number of cases admitted to our wards over a ten-year period being more than 12 per cent of the number admitted at term. More than one-third of these abortions were admittedly self-induced. One of the most pernicious and futile methods of induction was the introduction of potassium permanganate tablets presumably into the cervical canal, but generally into the vagina, a practice which produces punched-out ulcers at the point of contact and causes alarming hæmorrhage, without accomplishing the desired result.

In cases of threatened abortion, as evidenced by slight or moderate hæmorrhage through an

* Read before the Section of Obstetrics and Gynæcology, Academy of Medicine, Toronto, November 16, 1933.

undilated cervix, with or without irregular pains, our treatment is rest in bed, and the administration of sedatives as required, together with a small daily enema, the patient being kept in bed for a week after the hæmorrhage has stopped. We do not follow the British practice of giving small doses of ergot in these cases. When abortion is inevitable, that is, where the pains are regular and strong, the cervix dilated and the ovum presenting, we pack the cervix and vagina tightly with gauze and give five grains of quinine and three grains of ergotine every four hours for twenty-four hours. When the gauze is removed at the end of that time the ovum usually accompanies it.

If the abortion is incomplete on admission to hospital, in the absence of fever, we empty the uterus under gas-oxygen anæsthesia, swab out the uterine cavity with iodine, and pack it lightly with gauze for twenty-four hours. In the presence of fever we treat the patient conservatively, examine a cervical smear, and take a blood culture. Our only indications for emptying the uterus are severe hæmorrhage and the presence of secundines which interfere with proper uterine drainage. When curettage is considered necessary precautions are taken to avoid breaking down nature's leucocytic barrier against infection. Here again the uterus is swabbed out with iodine and packed lightly with gauze for twenty-four hours.

Ectopic gestation occurs much less frequently than abortion and in hospital practice forms about 1 per cent of the pregnancies admitted to the wards. Its diagnosis is not always easy, the percentage of error in most clinics ranging from 15 to 30 per cent. The classical type is not hard to diagnose, with or without its history of amenorrhœa of one or two months' duration, and then sudden, severe pain in the right or left lower quadrant, accompanied by slight uterine bleeding, and presenting on examination a tender mass behind or to one side of the uterus. Nor does the cataclysmic type, with its sudden, severe abdominal pain and collapse offer any difficulty. But in 5 per cent of all cases there is no history of amenorrhœa, and in more than 5 per cent there is no vaginal bleeding. In over 20 per cent of all cases the hæmorrhage is not dark brown but red in colour, and in over 30 per cent the history and symptoms are identical with those of threatened abortion, while in over 10 per cent the patient complains of pain referred to other locations than the lower abdomen.

So great is the variation in the character, degree and location of the pain in the presence of ectopic gestation, that whenever an acute abdominal condition is seen in a female between puberty and the climacteric ectopic gestation must be considered before making a diagnosis. Then, too, in our experience almost all cases, except the cataclysmic type, have an elevation of temperature of from one to four degrees Fahrenheit, and almost all show a leucocytosis, the leucocyte count increasing in proportion to the amount of free blood in the peritoneal cavity.

It will, therefore, be readily understood that the diagnosis is not easy, and that a complete history and a careful bimanual examination are necessary to arrive at the correct one. When in doubt a posterior colpotomy may be done, and when blood is found in the pouch of Douglas the diagnosis may be considered confirmed. Once the presence of an extra-uterine pregnancy is recognized operation is imperative, as the ovum that nests in the wall of a tube is a constant and imminent danger to the life of the mother.

Hydatidiform or vesicular mole must be considered as a dangerous condition because of its association with chorio-carcinoma, about 40 per cent of the latter giving a history of the former. Fortunately it is not common, occurring about once in 800 pregnancies in hospital practice. Vesicular degeneration of the chorionic villi commences early in pregnancy, and the uterus enlarges rapidly until by the third month the fundus reaches almost to the umbilicus and can be felt as a smooth, rounded, resilient mass in which no fetal parts or movements can be felt. The Zondek-Aschheim test for pregnancy is positive and the symptoms of nausea and vomiting are usually exaggerated until uterine bleeding occurs, after which they subside to a marked degree. The blood is bright red in colour and usually moderate in amount, and when the characteristic vesicles appear in the blood clots the diagnosis is complete. The uterus should then be emptied and carefully curetted in order that no degenerated villi may be left behind. It should then be swabbed with iodine and packed with iodoform gauze for twenty-four hours. A Zondek-Aschheim test should be made before the patient leaves the

hospital, and if found to be positive a second curettage should be done, and she should be kept under observation and treatment until the test is found to be negative.

Next for our consideration come placenta ablata, placenta prævia and their handmaiden, post-partum hæmorrhage.

Placenta ablata occurs so often in connection with the late toxæmias and so seldom as the result of injury that it may well be considered a complication of the toxæmias, and must be kept in mind as a possible source of danger when symptoms of pre-eclampsia appear. The hæmorrhage may be revealed or concealed, or both. It may be moderate or severe, the most severe types being usually concealed. It may occur at any time during the last trimester, but is more common in the eighth or ninth months and at term. Its presence at any time in any amount should be regarded with suspicion and appropriate treatment given, as it is always a sign of danger to both mother and child. The amount of hæmorrhage, whether revealed or concealed, is usually in proportion to the extent of placental separation, and is accompanied by irregular, painful uterine contractions, while the uterus itself is tender and in severe cases tense and ligneous, and the patient herself suffers a degree of shock and collapse out of all proportion to the visible hæmorrhage.

In all cases the patient should be put to bed and an attempt made to combat the shock and stop the hæmorrhage. This usually means ultimately emptying the uterus in order to control the hæmorrhage from the placental site. For this purpose various methods have in our experience proved effective. When the hæmorrhage is revealed packing the cervix and vagina tightly with gauze and applying an abdominal binder will sometimes control it and induce labour. Then again labour may be induced by rupture of the membranes, (a) alone, or (b) aided by the hypodermic injection of pituitrin in 0.5 c.c. doses, or (c) combined with the introduction of the hydrostatic bag.

As a rule patients suffering from placenta ablata go into labour very readily, owing to the fact that the partially separated placenta acts as a foreign body and stimulates the uterine muscle to contract, and labour proceeds normally. However, whether the labour is spontaneous or induced, at its completion there is the ever-present danger of post-partum hæmorrhage, which the obstetrician must always be prepared to combat. The most dangerous type is that in which the placenta is almost completely detached, the fetus invariably dead, the uterus tense and distended and its walls weakened by the intramuscular extravasation of blood, while the patient herself is in a state of collapse. In this type Cæsarean section or hysterectomy is the treatment of choice and should always be accompanied by intravenous medication and blood transfusion. Where section alone is done the ever-present danger of post-partum hæmorrhage must be kept in mind.

Placenta prævia is diagnosed by the presence of painless uterine bleeding, which is the result of placental separation from the lower uterine segment, brought about by the gradual taking up of the cervix through the rhythmical uterine contractions which occur during the latter half of pregnancy. The diagnosis is not always easy, but as a rule when the placenta occupies the lower uterine segment the presenting part rides higher than usual and does not so readily fit into the brim, while one may feel an abnormal thickness or bogginess in one or all of the fornices. When the external os is dilated one may feel the placenta itself or its margin encroaching on the internal os. Radiographic plates taken immediately after the injection of thorotrast into the circulation have been advocated by some as a valuable aid to diagnosis, but in our experience this method has not proved satisfactory, the x-ray diagnosis having been proved to be incorrect in more than 50 per cent of the cases.

When the diagnosis has been made the patient should be kept in bed and under constant observation until the pregnancy is terminated, and in deciding the method of treatment the safety of the mother should be considered before that of the child. Our treatment is by no means uniform in all cases. Many factors have to be considered before deciding on which procedure to follow in the individual case. The age and parity of the patient, the amount of hæmorrhage, the location of the placenta, the condition of the cervix, the presentation and lie of the child, the presence or absence of disproportion, and the stage of pregnancy or labour must all be taken into account. In all cases in which hæmorrhage has occurred before the onset of labour the cervix and vagina should be packed with gauze, and in primigravidæ with a

central placenta prævia a Cæsarean section should be done.

When labour has started and the cervix is partially dilated three methods are available: first, rupture of the membranes to hasten the descent of the head; secondly, rupture of the membranes and introduction of a hydrostatic bag; thirdly, rupture of the membranes and podalic version, in which case a leg is pulled down and a weight attached. These three methods are used for the purpose of supplying a plug to control the hæmorrhage and may be supplemented by the intramuscular injection of pituitrin in 0.5 c.c. doses to stimulate uterine contraction.

When labour has advanced to the second stage it may be allowed to proceed normally if the patient's condition warrants it, or may be assisted when rapid delivery is indicated. As a rule, however, when the bleeding is controlled by the version or the bag it is advisable to give the patient time to recover from her loss of blood and not to hurry the delivery.

Usually the delivery of the placenta rapidly follows that of the child, and may itself be followed by post-partum hæmorrhage of varying degrees of severity. It is advisable, therefore, to give the patient one-half c.c. of pituitrin on the completion of the second stage and one c.c. of aseptic ergot on the completion of the third stage. It is also advisable to have ready a hot intra-uterine douche at a temperature of not more than 120° F. in the event of excessive bleeding.

All patients should be kept under constant observation for at least an hour after the completion of the third stage, during which time the height of the fundus, the degree of uterine contraction, the quality and rate of the pulse, and the amount of the lochia should be noted. When the loss of blood has been either excessive or sudden and the patient is in shock intravenous medication of normal saline, glucose, gum acacia or blood is indicated, and when post-partum hæmorrhage occurs the uterus should be massaged and compressed, a hot intra-uterine douche should be given, and if necessary the uterus packed with gauze. In all cases constant and intelligent post-partum supervision is absolutely necessary for at least forty-eight hours, and a minimum lying-in period of two weeks is advisable, during which time reduced iron in five grain doses after meals is of great value.

In conclusion, and speaking generally, one may safely say that many of the tragedies of pregnancy due to hæmorrhage might be avoided by careful prenatal supervision. But one may also truthfully say that while prenatal care is both advisable and necessary, the blood and bones of obstetric practice consist of skill and judgment in the conduct of labour. The ability to recognize the danger signals and the knowledge to interpret their significance, combined with the courage and intelligence to interfere when interference is necessary will save many lives.