TABLE IV.

ECLAMPSIA.

Relation of onset of fits to onset of labour.

	A.P.	Died		I.P.	Died		P.P.	Died
Primigravidæ	18	3	...	18	1	...	10	1
Multigravidæ	12	4	...	9	1	...	7	1
Unrecorded ... 4								
Totals ...	30	7 = 23.3%		27	2 = 7.5%		17	2 = 11.7%

London Committee ... 1922	287	59 = 20.5%		84	14 = 16.6%		76	21 = 27.6%
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TABLE V.

Average number of Convulsions:

	Survived.	Fatal.
Primigravidæ ...	6.9	13.4
Multigravidæ ...	8.9	25.1
Average ...	7.6	19.8

Number of fits in fatal cases:

Primigravidæ	5x	9x	15	16	22	
Multigravidæ	6x	8x	26x	31	34	46x

THE TREATMENT OF ANTE-PARTUM HÆMORRHAGE

By ARNOLD WALKER, M.A., M.B., F.R.C.S., M.C.O.G.

*Obstetric Surgeon, City of London Maternity Hospital,
Gynæcological Surgeon, The Miller General Hospital,
Assistant Gynæcological Surgeon, The West London Hospital.*

For all practical purposes, vaginal hæmorrhage occurring during pregnancy may be taken as being due to premature separation of the ovum from its uterine attachments. The term Ante-partum Hæmorrhage is restricted to such hæmorrhage coming on after the twenty-eighth week, that is, after the child is viable. As the only part of the uterine contents to have a vascular connection with the uterine vessels is the placenta, ante-partum hæmorrhage is caused by the premature separation, in whole or in part, of the placenta. In the great majority of cases the blood passes through the cervical canal and appears as vaginal bleeding, but, in a small number, the blood is retained in the uterus. The circumstance which brings about this retention is almost invariably severe toxæmia and in such a case toxæmia rather than loss of blood may be the more important complication.

Ante-partum Hæmorrhage may be divided into the two classical types, Unavoidable and Accidental. The former signifies that for delivery to take place per vaginam, separation of the placenta is unavoidable because the placenta is situated in whole or in part on the lower uterine segment which must dilate. The

latter signifies that separation is the result of some external agency, either traumatic or toxæmic. In accidental hæmorrhage, the placenta is situated on the upper uterine segment and should not separate until after the birth of the child.

To retain a proper perspective in dealing with a case of ante-partum hæmorrhage it must be realised that the differential diagnosis between accidental and unavoidable hæmorrhage, although helped by certain signs and symptoms, is dependent upon one thing and one thing only and that is the discovery of the placenta within reach of the finger in the lower uterine segment or the reverse. Until such an examination is possible, that is, until dilatation has commenced, the case must be regarded as a case of Ante-partum Hæmorrhage and the management bears no relation to the probable situation of the placenta. This conception is important and keeps the attention of the practitioner focussed on the essential point, the necessity or otherwise for interference.

It is in the best interests of the patient that the onset of labour shall be spontaneous and the only indication for interference is the presence of prolonged or profuse bleeding. There is rarely any difficulty about making the decision and severe hæmorrhage before the onset of labour is fortunately uncommon. In both varieties, warning hæmorrhages are the rule and, all too often, the importance of these is neglected. Once a warning hæmorrhage has been observed, it may be assumed that this is the forerunner of something more serious to come. When the next loss will occur it is impossible to say and the only safe thing to be done is to transfer the patient to a place where skilled help is always available. At the City of London Maternity Hospital I once admitted a woman who reported a slight ante-partum hæmorrhage at my ante natal clinic. For some three weeks nothing happened and then one night she suddenly started to bleed with such violence that she almost died in the few minutes occupied in getting her to the labour ward. At home, I have no doubt that this woman would have been dead before a doctor could have been obtained. The difficulties involved in hospitalising these cases are very real, particularly when it is realised that the majority deliver themselves without serious bleeding or special treatment. But it is better for a woman to be put to some inconvenience than for her to run serious risk of death from hæmorrhage. Where admission to hospital is impossible the undesirable alternative of induction of labour may have to be considered.

As this lecture is essentially a practical one I do not propose to go into the various presumptive signs and symptoms given in every text book to enable a diagnosis between accidental and unavoidable hæmorrhage to be made before labour except to say that I have never known a placenta to be felt from the vagina through the lower uterine segment and that each time I have made a provisional diagnosis based on the time of onset of the bleeding and its character, the diagnosis has been wrong. There are, however, two important things to look for, firstly, the presentation and, secondly, the presence of albumin. These should be noted, not in order to help the diagnosis, but so that any additional complication can be dealt with on its own merit. It is no help for a probable diagnosis of placenta prævia to be made because there is a mal-presentation and accidental hæmorrhage because there is albuminuria.

In actual practise, most cases of Ante-partum Hæmorrhage come under medical supervision with the onset of labour and, if the uterus contracts well, need little or no interference. The fact that most cases can be left severely alone is not sufficiently realised by the student. This is the ideal treatment and any interference which becomes necessary should be restricted to the minimum. There may even be no necessity to make a positive diagnosis. For hæmorrhage only is interference required if the case is otherwise normal. Such interference may, however, be required at very short notice.

Before the onset of labour, profuse hæmorrhage may compel interference and this is undertaken with two objects, firstly, to minimise the loss and, secondly, to discover whether the placenta covers the cervical canal or not. A finger can be inserted through the os in almost every case and if the placenta is felt and its edge cannot be reached an immediate Cæsarian Section is the best treatment if available. If no placenta is felt, a tight vaginal pack and abdominal binder perform the dual purpose of stimulating contractions and arresting the bleeding. After some ten or twelve hours, the cervix is usually sufficiently dilated to allow thorough exploration of the lower uterine segment. A positive diagnosis is then made and the appropriate treatment carried out. Before considering this treatment, it is most important to realise that loss of blood in itself requires treatment and if the signs are present to show that the loss has been sufficient to shock or distress the patient, immediate replacement of the lost fluid is essential. A blood transfusion is ideal but often unobtainable, but the effect of saline, intravenous or subcutaneous are sufficiently lasting to be of infinite value in a bad case.

Placenta Prævia.

If the placenta covers the os, Cæsarian Section is the best treatment, but if this is unobtainable, the amniotic sac can be reached without undue difficulty. In penetrating a placenta three practical points should be remembered, firstly, the finger should be swept round to separate the placenta deliberately from the precincts of the os. This enables the cervix to dilate evenly and, after an initial gush, the bleeding stops for the moment; secondly, the placenta must be grasped with any convenient pair of forceps, such as a vulsellum, and thirdly, another pair of forceps should be used to bore the hole. Indiscriminate pushing on the unsupported placenta is to be avoided.

Once the amniotic cavity is reached, whether through the placenta or through the membranes, the bleeding can be controlled because it is possible to form a link between the child and the outside by which some part of the child can be pulled down on the separated placenta. If the breech presents or the lie is transverse a leg can be brought down and a tape attached. If the head presents, Willett's Scalp Forceps can be attached to it. A weight over a pulley on the leg or scalp forceps will then stop all bleeding. The weight required should be the minimum, usually one pound. Once the bleeding is under control, the longer delivery is delayed within reason the better, because this gives the woman adequate time to recover from the initial loss. Sedatives and hypnotics can be given freely. The critical time after this is the third stage and it must be remembered that deaths in cases of placenta prævia occur after delivery, rarely before delivery of the child.

To summarise, many cases of placenta prævia deliver themselves with little loss and no interference. Many require nothing beyond the initial pack and binder and possibly rupture of the membranes. The minority require version or

the application of scalp forceps. Hæmorrhage requires immediate replacement of the lost fluid at any stage. Once the bleeding is under control, delivery should on no account be hastened. Rapid delivery predisposes to post-partum hæmorrhage and time is a valuable factor in allowing the patient to recover from an initial loss. Hydrostatic bags have no place in the treatment of placenta prævia.

Accidental Hæmorrhage.

In most cases in which the placenta cannot be felt, there is, in addition to the external loss, a retro-placental clot often of considerable size. That is, the common variety of accidental hæmorrhage is the combined concealed and revealed type. The presence of external hæmorrhage shows that the uterus is capable of contracting and of expressing the escaping blood which acts as a foreign body.

Once labour has started it is rare to find much further hæmorrhage. The reason for this is fairly obvious. Hæmorrhage from the placental site is arrested by the contraction and retraction of the underlying muscle fibres. In the upper uterine segment this contraction and retraction is an essential part of the phenomenon of labour and, although retraction is less marked in the first stage than in the second and third stages of labour, nevertheless shortening of the individual muscle fibres is present to compress the open uterine sinuses. The work of the uterus can be aided by the support given by a tight binder. In a few cases it is necessary to reduce the bulk of the uterine contents in order to provide artificially increased retraction. This can be done by rupturing the membranes and allowing liquor to escape. After this, the direct pressure of the uterus on the foetus probably helps to arrest the hæmorrhage in some small degree. The main principle in the treatment of accidental hæmorrhage is to promote contraction and retraction of the uterus.

Once labour has definitely started, the danger of a serious hæmorrhage before delivery is not great and, as in cases of placenta prævia, nothing should be done to hasten labour and every effort should be made to treat the ill effects of shock and hæmorrhage. Again the danger of post-partum hæmorrhage must be remembered.

Accidental Hæmorrhage is seen in varying degrees of severity from a heavy "show" which stops with the onset of labour to cases of concealed hæmorrhage which are, as a class, perhaps the most dangerous of all obstetric emergencies. Almost invariably the separation of the placenta is due to toxæmia which also paralyses the uterine musculature. As there is no external loss, the diagnosis may be difficult and the worst case I have seen was sent into hospital as a case of perforated gastric ulcer. The patient is usually profoundly shocked and the uterus very tender and of a board-like consistency without any rythmical contractions. Cæsarian Section and probably hysterectomy has been advocated as the best line of treatment, but in recent years more conservative measures have been found to have a lower mortality. These conservative measures take the form of treating shock and allowing the uterus to recover from what may be described as a state of "spastic paralysis". In most cases this recovery takes place and, once labour has started, the danger is lessened. A vaginal pack and a tight binder are the only means available to prevent further loss. Morphia and transfusion improve the general condition. Once labour starts it is permissible to rupture the membranes but without contractions this is useless and might be fatal.