

Observations on some complications in obstetric practice
with special reference to the use of pituitary extract.

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Probably in no class of practice does the medical man so frequently find himself face to face with emergencies calling for prompt measures and special treatment, as in the more or less every-day complications of an obstetric practice. At the same time, there is probably no variety of case, outside of purely operative practice, which so frequently repays the care and ingenuity of the attendant by a rapid and complete recovery, as, the at first glance, apparently hopeless case of eclampsia or post-partum haemorrhage. The treatment of such cases may be comparatively easy in congested districts. Where one is within easy hail of the kindly help of a brother practitioner and where transit to a properly equipped hospital is a matter of no great difficulty; but the aspect of the case becomes immediately graver when it occurs in a remote country district where even the most makeshift conveniences are at a premium and the only available assistance, that of a probably too soft-hearted neighbour, or, at best, an untrained midwife with no knowledge of asepsis and possibly only a rudimentary acquaintance with ordinary cleanliness. Under such circumstances, the practitioner soon learns that necessity is indeed the mother in invention, and that he must, for his own peace of mind, initiate heroic measures

in cases which in more advantageous circumstances might do equally well with more conservative treatment.

It will be apparent, therefore, that these subsequent observations will appeal more to the lone-handed practitioner than to the technically better equipped city accoucheur of wider experience, who is daily coming in contact with "outside" cases and the latest methods of treatment in maternity hospitals.

Eclampsia,

is one of the most dreaded complications of pregnancy in country practice; not only on account of the high mortality to mother and child, but because of its frequently unexpected and sudden onset, the physician may be taken unawares, and valuable time may be lost in getting the patient under efficient treatment.

Regarding the aetiology of this disease theories are legion, but the practitioner will probably find that in general practice most cases come under the heading of "auto-intoxication" and his treatment directed on those lines will, in all probability result in a smaller percentage of cases and a considerably reduced mortality.

My observations are based on a series of six well defined cases.

Five of these were primipara, and in all, the disease ran a similar course of varying severity.

Prodromal symptoms, of headache, vomiting or epigastric pain were present in all, but in most cases were associated by the patient with the malaise and discomfort of commencing labour. Albuminuria was marked in each case, although only in one was the daily output much reduced.

The quantity of albumin varied from 2 - 8%.

The sediment was examined before or after the attack in all cases, and in each, granular, hyaline or epithelial tube casts were observed in varying quantity.

In two cases, there was well marked oedema of legs and feet, and three presented this condition to a slighter extent, although the degree was probably not much greater than is frequent in the later stages of pregnancy from pressure on the venous trunks in the pelvis and abdomen.

The pulse was not particularly observed in five of these cases previous to the convulsions, as none had been under treatment previous to the commencement of labour.

During the attacks, it was invariably of a hard, rapid type.

Fortunately, the convulsions which varied from 1 to 15 were, in all cases, concomitant with or subsequent to the onset of labour.

The treatment followed was practically similar in each case, viz., Morphia sulphate $\frac{1}{2}$ gr. hypodermically, large soap and water enema; chloroform anaesthesia, and, as soon as the cervix was sufficiently dilated, forceps were applied and the uterus emptied as quickly as was expedient.

In four cases the morphia was repeated in $\frac{1}{4}$ gr. doses every six hours for twelve hours after delivery, and during an interval of the convulsions the median basilic vein was opened and 12 - 20 ozs of blood abstracted and replaced by 2 - 3 pints of saline solution. Extract of pituitary gland was also administered hypodermically after delivery, and proved of value by promoting efficient contraction of the uterus and as a diuretic.

In all cases, there was an immediate improvement after the uterus was emptied, and the pulse which had varied from 136 - 160, rapidly diminished in rate and volume, and in all cases the temperature was normal at the end of the second day.

Five out of six children were born alive, and did well subsequently.

The sixth case was a multipara carrying her 14th child, and with evidence of advanced renal disease.

She had general oedema, affecting also the lungs, an embarrassed circulation, marked albuminuric retinitis and a scanty urine, almost solid with albumin. Although under treatment for ten days previous to the onset of labour, the urinary condition did not improve and she died from heart failure during the first attack, the birth of a living child occurring naturally during the convulsion and being immediately followed by the death of the mother.

It is, however, by prophylactic treatment that one can very considerably diminish, if not entirely obviate this complication in obstetrics.

A systematic practice of examining the urine of every maternity case booked, at the end of the 7th month, and, again, some days before the expected confinement, will enable the practitioner to put under immediate treatment practically all cases in which eclampsia is liable to be an attendant complication.

Where there is albuminuria the patient should undergo treatment consisting of rest, a strict milk diet, and in all cases where it can be enforced one or two pints of prepared sour

milk, or buttermilk, daily.

Carlsbad or Epsom salts $3\dot{i}$ - $3\ddot{ii}$ in hot water, every morning.

Mild diuretics in the form of sodium acetate or imperial drink.

In all cases, the thyroid gland should be examined, and if not enlarged, thyroid extract given in gr. 2 - 5 doses twice daily.

All cases in which there has been albuminuria should be kept in bed after confinement until the urine is albumen free; a period varying from a few days to six or eight weeks.

Placenta Previa,

is probably a more frequent condition in obstetric practice than is generally recognised.

I have no doubt that many cases of abortion in multipara, during the 3rd and 4th months, in women otherwise healthy and where there is no displacement of the uterus and no history of injury, are possibly due to an abnormal situation of the growing placenta.

There also occur, to my personal knowledge, a certain number of cases of marginal placenta previa, which go on to term and

in which natural labour is completed without excessive haemorrhage, and where the condition is probably only discovered accidentally by the physician.

The complication is rare in primipara, and more frequently occurs in multipara, who have borne a large number of children, or who become pregnant after a lapse of some years.

In a series of five cases this occurred in the 10th, 12th and 13th pregnancy and after an interval of childbearing of 10 and 5 years, respectively.

In three cases there had been occasional slight haemorrhage for several weeks and the condition only gave rise to apprehension on the part of the patient, and consequent consultation with the medical attendant, near the end of the ninth month.

Of the other two cases alarming ^Ehaemorrhage occurred suddenly in one at the end of the 29th week, and, in the other, just prior to the completion of the 8th month.

Two cases coming in the ninth month were fully marginal and the cervix was easily dilated with fingers and metal dilators, and the presenting head delivered with forceps.

Haemorrhage in each case was severe, but not alarming.

The third case was a stout woman of 46 years, with a somewhat

feeble circulation: the placenta was situated centrally, and as the initial haemorrhage had been profuse it was considered best to perform version by the bimanual method and bring down both feet through the ruptured placenta. Fortunately, the cervix was readily dilatable, the child was rapidly delivered, and the placenta immediately afterwards removed manually.

The two cases in which severe haemorrhage commenced during the 8th month were treated by vaginal tamponade for periods of 12 and 18 hours, respectively.

When the cervix was moderately dilated podalic version was performed, and both cases terminated without further excessive haemorrhage.

The only fatality was one of the latter children.

In three cases, intravenous infusion of salines was practised, and extract of pituitary body administered with beneficial result.

When uterine contraction is feeble after delivery of the child, or when haemorrhage continues, it is advisable to immediately remove the placenta by hand and follow with an intra uterine douche of hot sterile water to promote efficient contraction.

Shock and Haemorrhage.

In obstetric practice, these two conditions are usually associated, and one is frequently the result of the other. Shock following haemorrhage is, of course, an expected sequel in any class of practice, but there is no doubt that in maternity cases post partum haemorrhage is often the result of primary shock.

The distended splanchnic venous system and feeble general circulation conduce to a backward flow through the open uterine sinuses, and, consequently, to an alarming haemorrhage, which frequently results in collapse.

This type is probably more serious on account of an absence of reaction, an atonic condition of muscle fibre in blood vessel and uterine wall, and it may be a lack of coagulability on the part of the venous blood.

It is difficult to give an explanation for the shock which follows delivery in many cases, but there can be no doubt that some women are specially prone to this complication, and it recurs in successive pregnancies, and may not be associated with tedious or difficult labour.

A further curious point in this connection is that most of my cases were strong, healthy country women accustomed to an arduous life, and certainly not of the delicate, highly-

strung nervous type one would naturally associate with such a condition.

This variety of shock is often severe even when, as frequently occurs, haemorrhage is not a sequel.

In all probability, the pressure of the contracting uterus and of the child during the descent through the pelvis and passage over the perinaeum on nerve trunks, and more especially on branches of the sympathetic system produces by strong impulses a disturbance in the central nerve centres, and a reflex inhibitory action through the vagus on the heart, thus causing a serious fall in blood pressure.

One can readily realize how this is produced in cases of tedious labour, or in difficult forceps cases, especially if the anaesthesia is too light, or if the forceps have been applied at too early a stage, but why should this general depression of vital activity arise as a sequel to a more or less natural labour? Haemorrhage is apt to occur in cases where there has been an indiscreet use of morphia in the first stage, especially if this is followed by chloroform in the later stages of the labour.

Morphia is, however, the drug par excellence for use in the first stage, especially in primipara, or when the cervix is rigid and slow in dilating.

I have made careful observations in a number of cases of the comparative results from chloral, bromides, scopalamine, hyoscine hydrochlorate and morphia in various combinations, and find that, for general use, morphia is by far the best drug. It is advisable to give it in $\frac{1}{4}$ or $\frac{1}{3}$ gr. doses with $\frac{1}{30}$ gr. strychnine sulphate; the latter minimises the depression of muscular tone, and does not to any extent affect the anodyne action of the morphia.

As a stimulant in cases of emergency strychnine is decidedly inferior to pituitary extract, but it is of great value in cases with a history of shock or haemorrhage in previous labours, or in cases of debility. The Liquor Strychninae in 5 m doses, three times daily, may be given by mouth for a period of two or three weeks before labour.

The distinction between shock and collapse is often not marked since the former merges into the latter especially if haemorrhage be present, but in several cases as described below there were distinctly noted three stages during the complication; a primary stage of shock, followed by haemorrhage and finally collapse.

Consciousness was not always abolished, but, in most cases, was more or less hazy; pupils were dilated even in cases

where there had been a previous administration of morphia: reflexes were diminished, if not actually in abeyance; respirations feeble; while the pulse, at first slow and weak, became rapid, irregular, and, in some cases, practically imperceptible as the cardio inhibitory centre became paralysed from the ensuing cerebral anaemia.

For the treatment of these cases, I have, for some years, been using Pituitary or Infundibular extract, supplemented in the more severe cases by infusion of saline solution into the veins.

The physiological action of pituitary extract was first demonstrated by Professor Schäfer in 1894.

He found that administration of this preparation caused a rise of blood pressure, similar to that produced by extract of supra renal body.

The rise of blood pressure is the result of general vaso constriction, but there is, at the same time, a direct stimulation of the cardiac muscle, and as has since been demonstrated, of other plain muscle fibre especially that of the pregnant uterus.

This preparation has the advantage over supra renal extract

and preparations of ergot that the rise of blood pressure and stimulation of involuntary muscle is of considerable duration, lasting, in many cases, from 12 - 24 hours.

The benefit of this will be readily appreciated by the country practitioner, who has to treat emergency cases many miles from his home, and who frequently has to leave them in a more or less precarious condition, in the care of an untrained nurse for a period of some hours before he can pay a return visit. Further advantages of this preparation are its stability, and the readiness with which it is absorbed.

It does not cause the same local ischaemia as does extract of supra renal, nor have I observed the discomfort from palpitation of the heart, which often follows the administration of adrenalin. The quick action of pituitary extract was observed by Blair Bell in two cases of Caesarian section, where the uterus was seen to blanch and contract immediately into a firm ball after injection of this preparation.

It has been recommended in cases of uterine atony, but its prolonged action on the uterine wall, in my opinion, might be a source of danger of asphyxia to the child.

The prepared extract is put up in hermetically sealed phials by a reliable firm of manufacturing chemists, and I have never found it fail to produce a definite rise of blood pressure.

My usual initial dose is 1 C C but double this amount may be given without discomfort to the patient.

In serious cases of shock I prescribe eight hourly doses of .5 CC subsequently, for a period of 48 hours.

In the cases noted below, pituitary extract was supplemented by saline infusion, but I have used it alone in a large number of cases with undoubted good results.

In severe cases of shock or haemorrhage it is always advisable to administer salines, and I am of opinion that this is better given intra venously.

Apart from the fact that in severe cases the sphincters are usually relaxed and rectal salines are with difficulty retained, the absorption from intra cellular tissue and rectum is naturally slow, and valuable time is gained by introducing the fluid directly into the circulation, and the operation can be performed with considerably less discomfort to the patient than if the sub pectoral method is employed.

Rapid sterilisation of the skin can be effected by painting the area with spirituous solution of iodine, and there is usually no difficulty in locating and opening the median basilic vein.

When the patient is conscious an injection of 1/6 gr. cocain will render the area quite insensitive while the vein is

being located and opened. A ligature can be left long on the vein, so that it may easily be picked up and the saline repeated at intervals if necessary.

In many cases where the loss of blood during or after delivery has been excessive one is apt to get a variable temperature ranging from 100 - 102° F. for some days, and for which there is no apparent cause.

I have made a bacteriological examination of the lochia in several such cases without finding any pathogenic organisms and believe that the temperature is probably due to a haemolytic process.

This point of view is strengthened by the fact that when salines have been freely administered such conditions are less liable to arise, and the subsequent anaemia is much less pronounced.

For saline administration, a probe pointed cannula, two feet of rubber tubing and a glass funnel ought to be included in the equipment of the country doctor's midwifery bag.

The following cases are illustrative of shock and haemorrhage treated by pituitary extract and saline infusion.

Case 1.

A young woman of healthy appearance, second pregnancy. There was an unusual history of family idiocyncrasy to haemorrhage following labour in this case.

Three elder sisters had all suffered from post partum haemorrhage, one had died immediately after delivery. Patient had herself lost freely after the birth of her first child.

The present was a case of twin pregnancy, and presented no unusual feature until after the first child was born. Haemorrhage was free, but not alarming, and ceased when uterine contractions again became active.

Immediately after the second birth, however, there was a rush of blood from an unusually relaxed uterus, and as patient looked very ill I removed the placenta by hand. Her condition became worse and the case presented typical features of collapse, pulse barely perceptible, breathing irregular and complete loss of consciousness.

I gave her 1 CC pituitary extract hypodermically, and supplemented this by three pints of saline intravenously giving also in the last pint another CC of the extract. The uterus was firmly contracted ten minutes after first injection, and further haemorrhage had ceased.

Recovery was rapid and uninterrupted.

Case 2.

Lady of 32 years, a primipara.

This was a case of extra uterine gestation of about a month's duration.

Symptoms started with acute abdominal pain eight days after expected menstruation, and was followed a few hours later by a blood stained discharge.

On pelvic examination, a slightly enlarged uterus with a posterior small fibroid was felt.

A very tender swelling was detected in the left broad ligament, and pouch of Douglas appeared to be full of fluid.

Patient was in a state of collapse when put on the operating table, pulse imperceptible, and general condition such that only the slightest anaesthesia was necessary. The pelvis was found filled with blood from a small ruptured sac in the left tube.

An intra-venous saline of two pints with 1 CC pituitary extract was administered during operation and repeated again after six hours, .5 CC pituitary extract was given hypodermically every eight hours for two days.

The pulse which was 160 when she was returned to bed had fallen to 80 at the end of 48 hours.

Temperature remained normal throughout.

Case 3.

A Maori woman, pregnant with her 13th child.

Patient had been in labour for two days, and when first seen had a temperature of 102° F. with a pulse of 136.

Presentation was occipito-posterior and head was firmly fixed in the pelvis. Forceps were applied and a 14 lb. child delivered after considerable delay. As haemorrhage was considerable and there was no contraction of the uterus, the placenta was removed by hand.

Intravenous saline with pituitary extract was given, and the case made an ultimately good recovery, although the issue was in doubt for the first 48 hours.

Case 4.

This was a multipara in labour with her 4th child, and one who had had severe shock followed by haemorrhage during each previous confinement.

The birth of the child was followed by a serious condition of shock, and after expulsion of the placenta by a subsequent post partum haemorrhage. The resultant collapse was most grave.

Intravenous saline with pituitary extract was followed by a marked improvement in her general condition, but as temperature

remained high for some days and lochia became foetid, she was curetted and a quantity of placental tissue removed. Thereafter she made a good recovery.

Case 5.

A case of "hour glass" constriction of the uterus, accompanied by severe post partum haemorrhage.

A hand was, with difficulty, introduced through the constriction and the placenta removed.

Haemorrhage was severe, but the patient made a good recovery after treatment with the usual saline and pituitary extract.

Apropos Case 4, the prolonged contraction of the uterine wall after administration of pituitary extract may probably be of considerable advantage in limiting the spread of infection by lymphatics and preventing absorption of toxins in cases of mild puerperal sepsis.
