

DOMICILIARY OBSTETRICS*

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Our practice in the Swanley district is classified as semi-rural, although some urbanization has taken place in the past three years. We have a central surgery with three consulting rooms, secretaries, etc., and one branch surgery in a village four miles away. All four partners are on the obstetric list and actively practise obstetrics. A rota system is in operation for night calls, off duty, and weekend duty.

Broadly speaking, our maternity cases can be divided into two main groups. The first group consists of those cases referred direct to the local hospital for confinement in hospital. The patients attend the hospital antenatal clinic under the consultant obstetrician. In this group are some primiparae, cases referred on medical grounds, and those whose lack of accommodation, and so on, has been confirmed with the district midwife and make a hospital confinement necessary.

The second group, and those that we are chiefly concerned with in this talk, comprise 702 mothers who were booked for home confinement, and 200 for confinement in the local general-practitioner maternity units, over the last ten years. Hospital facilities available consisted of one small general-practitioner maternity hospital at Horton Kirby, which was closed in 1955, and an occasional bed in the maternity ward of Cray Valley Hospital, a general practitioner hospital at Ruxley, near Sidcup.

Antenatal Care

Our antenatal clinic is held weekly and is attended by three doctors and by one or two of the district midwives. An appointment system has been in force since its inception, and it seems to work reasonably well, patients being given appointments at five

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minute intervals. The average number attending at each clinic would be about 30.

Relaxation classes are arranged for all primiparae and those multiparae who would like to attend them, and they seem to be quite popular. Besides relaxation, the conduct of labour, gas and air analgesia, mothercraft, cooking, etc., are subjects discussed. For a tense and nervous primipara, these classes are very helpful.

In addition to the evening clinic, an afternoon clinic is held by the district midwives, and any abnormality encountered in the afternoon is referred to the evening clinic. Antenatal cases were, on average, seen by us three times until the 32nd week, fortnightly until the 36th week, and three times at weekly intervals thereafter. Clinic defaulters were infrequent, except for the worst type of case—the harassed middle-aged mother with a large family.

Overall Results

The total number of cases booked was 902. 702 were booked for home confinement, of which 15 per cent or 85 were primiparae. 200 were booked for admission to the general-practitioner maternity beds, 45 per cent or 93 being primiparae.

The total number booked and then referred to hospital for one reason or another was 87. Seventy-one cases were transferred to hospital during the antenatal period, 11 were sent during labour and 5 during the puerperium.

A more detailed analysis of the patients sent to hospital during the antenatal period shows that the causes were:

Toxaemia of pregnancy—21
 Ante-partum haemorrhage—11
 Antibodies in a Rhesus negative mother—11
 Disproportion—7
 Twin pregnancy—5
 Breech presentation—2
 Mitral stenosis—2
 Intra-uterine foetal death at the 38th week—2
 Social—2

and one each of the following:

Influenzal pneumonia and pleural effusion, lobar pneumonia, infective arthritis, double disc lesion in a primipara, ovarian cyst, anencephaly, post-maturity, prolapse of the cord with transverse lie.

Of the 11 patients who were transferred during labour, four were on account of primary uterine inertia in primiparae, five for delay in the second stage of labour due to deep transverse arrest and whose home conditions were not suitable for operative measures, one for delay in the second stage of labour due to a brow presentation and one was transferred to hospital when it was found she had no facilities for home confinement.

Of the five mothers transferred during the puerperium, four were

for secondary post-partum haemorrhage and one for parametritis which developed 10 days after an internal version and breech extraction.

Antepartum haemorrhage. Eleven cases of antepartum haemorrhage were transferred to West Hill Hospital and eight were considered to be due to placenta praevia. All were delivered normally except one who had a caesarean section. Unfortunately, the infant was stillborn.

There was one case of concealed accidental haemorrhage in a very fat multipara at 32 weeks. One night she suddenly developed continuous lower abdominal pain. On examination, she had a blood pressure of 150/94, there was albuminuria, and the abdomen was tense and woody. The foetal heart was not heard. She was given morphia gr. $\frac{1}{4}$ and sent to hospital. She was eventually delivered of twins, both stillborn.

Pre-eclamptic toxæmia. A diastolic blood pressure of 90 or more with or without oedema and albuminuria occurred in 136 cases or 15 per cent of all bookings. This was the most common maternal abnormality. Twenty-one cases were considered severe enough for hospitalization, all except three having albuminuria.

There were two cases of eclampsia. The first, a primipara aged 25 at term, was normal antenatally. The labour was rather precipitate, with the delivery of a stillborn infant. Four hours afterwards she had a fit lasting two minutes. Her urine was loaded with albumin, and her blood pressure was 160/100. Post-mortem examination of the infant showed evidence of cerebral haemorrhage. It is interesting to note that her next two confinements resulted in stillborn infants, and she eventually adopted a baby daughter.

The second case was an ex-district nurse with a history of toxæmia with her first baby. She had a normal delivery at term. Almost immediately after completion of the third stage, she had a short fit preceded by severe headache. Her blood pressure was 150/100. Five hours afterwards she had a further fit lasting 90 seconds. This was accompanied by increasing cyanosis and the production of much mucus. When consciousness was regained, she was given morphia gr. $\frac{3}{8}$. A catheter specimen of urine showed a heavy cloud of albumin, and her blood pressure was 160/96. The next day her blood pressure was down to 120/76, and there was no albuminuria.

The Rhesus factor. One hundred and thirty-five mothers were found to have Rhesus negative blood. Routine blood tests were made on first booking and at the 32nd, 34th, 36th, and 38th weeks. The tests at the 32nd and 36th weeks were later omitted after con-

sultation with the pathologist.

Eleven mothers developed antibodies and were transferred to either Farnborough Hospital or Lewisham Hospital for artificial rupture of the membranes and replacement transfusion.

One infant was stillborn, at 36 weeks, showing hydrops foetalis.

Management at home. Of the 820 mothers delivered, 324 or 40 per cent were attended by one of us during the confinement. The perineum was repaired in 240 cases, of which four were for 3rd degree lacerations. All repairs united by first intention, except for two 2nd degree tears. These were cleaned and resutured after about 10 days.

There were 32 mothers on whom it was considered necessary to perform an episiotomy. Nearly all of these were primiparae.

In 11 cases the baby was born precipitately, before the arrival of the district nurse or ourselves. One of these, a para 10, had a stillborn infant. A post mortem on the infant was refused.

Abnormalities and Difficulties

Breech presentation. We consider it most important that the presenting part be confirmed at the 32nd and 36th weeks at least, and earlier, at the 30th week, if possible. 106 cases or 13 per cent were diagnosed as having a breech presentation and external version was performed.

There were seven breech presentations delivered as such, only one of which was diagnosed before labour, giving a breech delivery rate of 0.8 per cent. This woman was a policeman's wife from the North Country, who had moved into the district four weeks before she was due. On her first examination, she was found to have a large baby presenting as an extended breech. External version was attempted in vain. Her history was that version had been attempted at her previous hospital in the north, with unfortunate results, as she had fallen off the examining couch. She refused to attend hospital again, but with the help of a large episiotomy she had a spontaneous delivery.

The other six were, regrettably, undiagnosed until labour was well established.

Two multiparae were delivered without much trouble.

One primipara delivered herself spontaneously of a macerated foetus with a large spina bifida.

One, para 5, who was found to have an extended breech was delivered under local anaesthesia. Forceps were applied to the after-coming head.

Two primiparae had extended breeches, and were delivered with consultant help. They both had difficult breech extractions with forceps to the after-coming head, under general anaesthesia.

Twins. There were nine twin pregnancies, of which three were delivered at home. One, a multipara, had two normal babies easily.

The second, a primipara, developed primary uterine inertia and later delay in the second stage. A pudendal block was performed, and the first twin delivered with forceps. The second sac was ruptured after 20 minutes and a 7 lb. baby born spontaneously, with the cord tightly around its neck. Unfortunately, it was stillborn. She then had a massive post-partum haemorrhage, but this responded to intravenous ergometrine. The second primipara also had two vertices and developed primary uterine inertia. A pudendal block was performed soon after she was fully dilated. Delay in the second stage was found to be due to a posterior position of the vertex, so the head was rotated to anterior and the forceps applied. The infant was stillborn—weight 4 lb. 6 oz. After 20 minutes the second sac was ruptured, and delivery followed spontaneously of a normal infant weighing 6 lb. 4 oz.

The post mortems of both infants showed the cause of death to be asphyxia.

Of the remaining six cases, five were referred to hospital after the twin pregnancies had been confirmed. Two of these had normal deliveries, one went into premature labour at the 30th week, and one had premature rupture of the membranes and prolapse of the cord with loss of one baby. The sixth case had concealed accidental haemorrhage at the 32nd week, resulting in the loss of both babies.

Forceps deliveries. There were 17 forceps deliveries, giving an incidence of 2 per cent. Of these, three were for multiparae and 14 for primiparae. There were two breech cases, and two infants were stillborn. Twelve cases were conducted under local anaesthesia with xylocaine or procaine 1 per cent, and five under general anaesthesia.

The indications for forceps were:

Foetal—2

Maternal—10

Arrest following transverse and posterior positions of the occiput—5

The placenta was manually removed in four cases, in three of these immediately after the forceps delivery. The fourth case was of retained placenta, due to a contraction ring following a low forceps delivery under local anaesthesia. The general principle has always been to give the mother every chance to deliver herself naturally. Local anaesthesia is to be preferred and appears to give a considerable degree of relief of pain, especially when combined with gas and air, or gas, air, and trilene analgesia. The Neville Barnes forceps were used without axis traction handles, and an episiotomy was always performed prior to their application.

Transverse arrest presents a very real problem, as it usually means that a general anaesthetic is required, with all its hazards and dangers. In addition, another of the partners must be immedi-

ately available. In one case, a primipara, there was considerable difficulty in rotating the head and Scanzonis' manoeuvre was used.

In one other case, a multipara, the head kept slipping back to posterior after rotation and before the forceps could be applied. After three attempts at applying forceps, a satisfactory position was obtained and the head extracted in the AP diameter. The infant's weight was 10½ lbs.

Ergometrine and hyalase intramuscularly or ergometrine 0.25 mg. intravenously was given routinely after the birth of the head to all who had forceps deliveries.

It is interesting to note that ten mothers, two of whom were primiparae, delivered themselves spontaneously with the occiput in the posterior position.

Postpartum haemorrhage. Serological and haemoglobin estimations were usually performed at the first or second antenatal attendance. As a rough guide, those with a haemoglobin of 60 per cent or less were considered for systemic iron therapy. There were 27 cases, all multiparae, who were given a course of either imferon intramuscularly or ferrivenin intravenously. The majority of these did not attend the antenatal clinic until late in the pregnancy, and a satisfactory response would not have been obtained with oral iron. There were no reactions reported with imferon or ferrivenin.

There were 41 cases of postpartum haemorrhage, regarded as having a loss of one or more pints of blood, giving an incidence of 5 per cent. Those cases which occurred on the district before the placenta had completely separated were given ergometrine intramuscularly either with or without hyalase as an emergency measure, by the district nurses.

Blood transfusions. In 12 cases, the haemorrhage was such that a blood transfusion was indicated. In nine cases, including one primipara, due to shock and the loss of two or more pints of blood, the flying squad from West Hill Hospital was called urgently to give a transfusion. These nine cases all followed a spontaneous delivery, and only in one case did the transfusion follow a manual removal of the placenta under general anaesthesia.

In three mothers transfusion was arranged during the puerperium, and the patient's blood was cross matched before transfusion. The placenta was manually removed on six occasions, three in primiparae. In three mothers manual removal of the placenta followed a forceps delivery under general anaesthesia, and in one the placenta was retained after a forceps delivery under local anaesthesia. In the other two cases, the indication for manual removal was haemorrhage due to uterine inertia and retained placenta following

spontaneous delivery.

Manual removal was performed under chloroform anaesthesia and at home in five cases. There were no complications following the operation, and all mothers had a normal puerperium.

Analgesia and anaesthesia. Gas and air analgesia was used through a Minnits apparatus in 98 per cent cases, trilene and air in the remainder. The latter has an advantage over gas and air, in that the apparatus is light and easily portable. Its analgesic properties appear to be about the same.

The most effective drugs used were chloral hydrate and pethidine for multiparae; morphia gr. $\frac{1}{4}$ was often given to primiparae when the cervix was between two and three fingers dilated, and in uterine inertia.

General anaesthesia is never lightly undertaken in the home where there is little in the way of resuscitative apparatus. Chloroform, used in the time-honoured way by rag and bottle, gave an excellent depth of anaesthesia in nine cases. Of these, deep transverse arrest and occipito-posterior position accounted for four, manual removal of the placenta for three, and breech extraction for two.

Artificial rupture of the membranes. The consensus of opinion has changed over the past few years, as it has been found that the still-birth rate is raised in the post-mature primipara.

As a general rule, and provided that there was no obstetric indication for induction, young primiparae were allowed to become up to two weeks post-mature before being referred to a consultant regarding induction of labour.

Multiparae were usually left to go into labour spontaneously. The membranes were ruptured, however, in 16 (or 20 per cent) of cases, 13 of which were for post-maturity. In all cases, the head was engaged in the pelvis, the cervix was ripe, and they were all 2—3 weeks overdue. Two cases were induced for toxæmia of pregnancy, and one had mitral stenosis.

The usual method for induction was the Drew Smyth catheter (13 cases), the low forceps being used in three cases. The average time before the onset of labour pains was eight hours. One case did not start labour for 48 hours, and she was transferred to hospital. Labour began after 56 hours, and she eventually had a normal delivery and puerperium.

Neonatal deaths and stillbirths. Over the ten-year period, there were three neonatal deaths and 18 stillbirths, giving a stillbirth rate of 2.2 per cent. The causes were:

anencephaly—3, macerated foetus—4, Rhesus incompatibility causing erythroblastosis—2, cerebral haemorrhage following precipitate labour—1, twin pregnancy—3.

Of the three twin pregnancies, one had a concealed accidental haemorrhage at the 32nd week, and both babies were stillborn; in one the second twin was born with the cord tightly round its neck in a primipara; and the third had a forceps delivery of a small baby weighting 4 lb. 6 oz.

One of the infants was premature—at the 30th week—birth weight 3 lb. 15 oz. There was one case of antepartum haemorrhage and pre-eclampsia at the 36th week. A multiparae 10 had a stillborn infant that was born before arrival, and the cause in one case was unknown. This was a para 2 at term who had a spontaneous delivery. The post mortem showed asphyxia.

The Postnatal Clinic

All mothers were given a specific request and time to attend the postnatal clinic. In spite of this, 10 per cent were late in attending, and even then only after repeated requests and visits from the district nurse. Seventy-five per cent of mothers were still breast-feeding at 6—8 weeks. The uterus was found to be retroverted in 20 cases, and a Hodge pessary inserted after anteversion. Cervical erosions which were confirmed on speculum examination were not cauterized but were left and re-examined after a further 6 weeks.

Contraception. Twenty-five per cent of mothers required advice, and the technique and fitting of a dutch cap was carried out when the baby was about 3 months old.

Conclusions

It would seem that the pattern of obstetrics in the home is changing. "Heroic Obstetrics" is best left to the experts. All abnormalities and potentially abnormal cases should be referred for hospital confinement, so that the remainder can be delivered at home in reasonable, if not absolute, safety.

Premature, breech, and twin delivery carry a stillbirth rate too high to be acceptable for domiciliary delivery. Low forceps under local anaesthesia only should be attempted.

The incidence of postpartum haemorrhage can be diminished by ensuring that mothers do not go into labour with a low haemoglobin and by the giving of ergometrine intravenously, or intramuscularly with hyalase, at the birth of the shoulder in difficult or long labours.

Blood transfusion and the services of the flying squad are available and should be used where the loss has been heavy, or where there has been difficulty with the placenta. In less urgent cases, systemic iron therapy in the puerperium is most effective.

Finally, it is quite evident that most of the abnormalities encountered are rare. In our experience, the number of years for which the average general practitioner would have to practice to see a case among his domiciliary patients is:

for prolapsed cord—10 years
transverse presentation in labour—10 years

mento-posterior position in labour—40 years
brow presentation—50 years
hydatidiform mole—50 years
ruptured uterus—200 years
inversion of the uterus—300 years.

Averages cannot be applied to individuals, but they do help keep a sense of proportion. It is only too easy to lose one's confidence and skill in management of the clinical rarity. For this reason I feel that there are strong grounds for allowing all interested general practitioners to become rotating clinical assistants in the maternity departments of a general hospital.

Summary

Over a ten-year period, there have been 902 booked maternity cases, of which 71 or 8 per cent were transferred to the local hospital antenatal clinic for confinement in hospital.

Of the 11 mothers who were transferred to hospital during labour, four were for primary uterine inertia and five for deep transverse arrest.

Fifteen per cent of antenatal cases developed toxæmia of pregnancy in one form or another, and two had eclamptic fits.

Fifteen per cent of mothers were found to have Rhesus negative blood, and 8 per cent of these developed antibodies after the 36th week of their pregnancy.

Breech presentation and subsequent external version accounted for 13 per cent of antenatal cases.

Management. The very great majority of deliveries were attended and managed by the district midwives, in whom we have the greatest confidence. Forty per cent of cases were attended by us at one time or another during confinement. Three-quarters of these were for perineal repairs.

Abnormalities and difficulties. There were seven breech deliveries, three sets of twins and 17 forceps deliveries. Of the indications for forceps deliveries, five were for deep transverse arrest and posterior position of the occiput. A pudendal block using either procaine or xylocaine was used in two-thirds of the forceps cases.

Postpartum hæmorrhage. Five per cent of all deliveries had a postpartum hæmorrhage, and there were six cases of manual removal of the placenta, and 12 for which a blood transfusion was needed. The stillbirth rate was 2.2 per cent.

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