

Patients transferred in labour from general-practitioner maternity units

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SUMMARY. Two hundred and one patients transferred in labour from general-practitioner maternity units to the consultant unit in West Berkshire are analyzed. Ways in which such transfers at a critical stage in pregnancy may be reduced are discussed.

Introduction

THE role of the general practitioner in obstetrics has changed markedly during the past decade with virtually all mothers now being delivered in hospital, either in consultant or general-practitioner maternity units. The Peel Report (1970) recommended that small, isolated obstetric units should be replaced by combined consultant and general-practitioner obstetric units in general hospitals. Elstein and his colleagues (1975), however, have expressed the opinion that the need for peripheral maternity units will continue, especially in rural communities. They stress that transfer of problem cases should not be a rare event but should occur before the onset of labour.

I examined the patients transferred in labour from general-practitioner maternity units to the consultant obstetric unit in West Berkshire during 1975. Can such transfers at a critical stage in pregnancy be reduced?

Obstetric care in the West Berkshire Health District

In 1974 the district had a population of 398,000, with a birth rate of 13·7 per 1,000 population. Obstetric care is undertaken by the consultant unit at the Royal Berkshire Hospital, Reading, and at four general-practitioner maternity units in the area, situated in Reading, Wokingham, Newbury, and Henley-on-Thames. In 1975 there were 5,606 deliveries in the district; 4,391 (78·3 per cent) of these were at the

consultant unit, 1,150 (20·5 per cent) were at the four general-practitioner units, and only 65 mothers (1·2 per cent) were delivered at home.

Patients are booked for confinement at general-practitioner units in accordance with the West Berkshire Health District Recommended Booking Policy and Policy for Referral of Maternity Cases in Pregnancy and Labour (1968). In general terms, the booking part of the policy states that the following groups of women are suitable for booking at general-practitioner units:

“1. All primigravidae who are married, aged between 17 and 30, over five feet (1·5 metres) in height and free of any medical or surgical conditions which might complicate pregnancy or labour or affect the infant. There should be no history of infertility.

2. All women expecting their second, third, and fourth pregnancies who are under 35 years of age, have had uncomplicated previous pregnancies and deliveries and have remained free of any medical or surgical conditions which might complicate the pregnancy or labour or affect the infant.”

The policy also outlines those patients in whom hospital admission or a consultant opinion is advisable in pregnancy. This group includes patients who during their pregnancy develop: hyperemesis gravidarum, pre-eclampsia, eclampsia, fits, hypertension, albuminuria, hydramnios, jaundice, and anaemia. Various obstetric conditions are also listed such as bleeding at any stage during pregnancy, unstable lie after 36 weeks, a small-for-dates fetus, premature rupture of membranes, multiple pregnancy, malpresentation, and patients who have gone ten days past their estimated date of delivery. All primigravidae in whom the head has not engaged by the thirty-sixth week should also be referred.

A third and final category of patients is defined by the policy, namely those in labour who require transfer to hospital or assistance from the flying squad. The criteria for this group of patients are malpresentation, multiple pregnancy, hypertension, pre-eclampsia, intra-partum haemorrhage, pyrexia, over 36 hours in labour,

Table 1. General-practitioner unit of origin of patients transferred in labour.

General-practitioner unit	Number of deliveries at GP unit in 1975	Number transferred in labour in 1975	Ratio of transferred to delivered
Wokingham	347	45	0.13
Dellwood (Reading)	459	108	0.24
Sandleford (Newbury)	140	29	0.21
Townlands (Henley-on-Thames)	204	19	0.09
<i>Total</i>	1,150	201	

ruptured membranes for over 36 hours, premature labour, fetal distress, delay in the second stage, excessive or uncontrolled post partum haemorrhage, retained placenta, and all third-degree tears.

Method

A retrospective assessment was made of patients transferred in labour from the four general-practitioner units to the consultant unit in the West Berkshire Health District during 1975. The cases were analyzed on the basis of:

1. The general-practitioner unit of origin.
2. The adherence of the patient's booking to the recommended booking and referral policy for the district.
3. The patient's parity.
4. The indications for transferring the patient in labour.
5. Outcome.

A more detailed appraisal was undertaken of the three groups of patients most commonly referred, namely those with delay in the first stage of labour, delay in the second stage of labour, and those with fetal distress.

1. The general-practitioner unit of origin

Two hundred and one patients were transferred in labour to the consultant unit in 1975. Table 1 shows the general-practitioner unit of origin. The table also shows the number of deliveries at each unit for 1975. It is interesting to note that Townlands and Wokingham have a much lower rate of transfer of patients in labour compared with those actually delivered at the unit, when compared with Dellwood and Sandleford. No attempt was made to demonstrate the reasons for this difference in this study. This will be the object of a future study and the results should be of value to those responsible for the general-practitioner units concerned.

2. Adherence of the patient's booking to the recommended booking and referral policy for the district

Seventy-two patients (36 per cent) should have been either booked at the consultant unit or referred at an earlier stage of pregnancy or labour. Fifteen of these patients had more than one indication for consultant unit booking or referral. A summary of the indications resulting in erroneous booking or delayed referral is given in Table 2. Twenty-three (26.2 per cent) should have been acted upon in the booking clinic and 47 (53.4 per cent) should have been acted upon during the antenatal period. Eighteen (20.4 per cent) transpired at an earlier stage of labour and were distinct from the ultimate indication for transferring the patient in labour. The commonest indications were post-term (36 per cent) and hypertension developing during labour (12.5 per cent).

3. The patient's parity

One hundred and forty-six of those transferred to the consultant unit (72.5 per cent) were primigravidae. The total number of patients booked was 1,351. Of these 894 were primigravidae (44 per cent). Of the 1,150 women finally delivered in the four general-practitioner units, 397 (34 per cent) were primigravidae.

On applying the chi-square test, with Yates's correction, the proportion of primigravidae transferred is significantly increased ($p < 0.01$).

Three patients (1.5 per cent) had had four or more pregnancies previously.

4. Indications for transferring patients in labour

The reasons for transferring 201 patients in labour are summarized in Table 3. The four commonest groups were: delay in the first stage of labour (over 36 hours), 42.3 per cent, delay in the second stage of labour (one and a half hours in primigravidae and three quarters of an hour with a multiparous patient), 19.4 per cent, fetal distress, 18.4 per cent, and raised blood pressure or pre-

Table 2. Indications for booking or referral to consultant unit not acted upon.

<i>Stage of pregnancy when action should have been taken</i>	<i>Indication</i>	<i>Number</i>
Booking clinic	Single girl	7
	Previous instrumental delivery	3
	Fifth pregnancy or more	3
	Previous pre-eclampsia	2
	History of tuberculosis	1
	Maternal age over 35 years	1
	Recurrent miscarriage	1
	Maternal height under five feet	1
	Pelvic floor operation	1
	Previous small-for-dates baby	1
	History of renal disease	1
Previous neonatal death	1	
Antenatal	Anaemia in pregnancy	4
	Post-term	32
	Hypertension in pregnancy	3
	Malpresentation	2
	Bleeding in pregnancy	1
	Small-for-dates	1
	Unengaged head at term	4
Labour	Hypertension	11
	Meconium stained liquor	2
	Premature labour	3
	Over 36 hours in first stage	1
	Spontaneous rupture of membranes for over 36 hours	1
<i>Total</i>		88

Table 3. Indications for transfer of patients in labour.

<i>General</i>	<i>Specific</i>	<i>No. %</i>
Maternal condition	Raised blood pressure or pre-eclampsia	26 (13)
	Maternal distress	9
	Proteinuria	2
	Pyrexia	1
	Ketonuria	1
Fetal condition	Fetal distress	37 (18.4)
	Breech diagnosed in labour	8
	Compound/face presentation	6
	Prematurity	6
	Twins	1
Complications of labour	Delay in first stage	85 (42.3)
	Delay in second stage	39 (19.4)
	High head	4
	Intrapartum haemorrhage	3

eclampsia developing during labour, 13 per cent. Twenty-four patients (11.9 per cent) had more than one indication for transfer.

5. Outcome

Only three patients had been incorrectly diagnosed at the general-practitioner unit. One patient, referred because of a face presentation, was carrying twins. Another patient, diagnosed as having twins, had a normal delivery of a single baby. The third patient, transferred because of delay in the first stage of labour, was found to have a breech presentation that had not been noticed at the general-practitioner unit.

Ninety-eight patients (49 per cent) proceeded to a normal delivery, while 88 patients (43.5 per cent) had forceps or ventouse deliveries, two with a general anaesthetic. There were five (2.5 per cent) Caesarean sections. Of the nine patients with breech presentations, eight had assisted breech deliveries and one had a breech extraction. One patient was delivered of twins.

Of the 202 babies delivered, five were either stillborn or neonatal deaths. Three of these five had congenital abnormalities (one anencephalic and two spina bifida). The fourth baby delivered to a patient (transferred because of fetal distress) developed bilateral pneumothoraces and died within 24 hours. The fifth child developed idiopathic respiratory distress syndrome and died within 24 hours. The mother of this infant was referred because of premature labour at 37 weeks' gestation and because she had an intrapartum haemorrhage.

Patients transferred because of delay in the first stage of labour. Eighty-five patients were transferred because of delay in the first stage of labour. Nine patients proceeded to delivery without any stimulation. A further nine patients had deliveries after forewater rupture alone. Forty-one patients proceeded to normal deliveries with a 'Syntocinon' infusion and 24 patients had forewater rupture and a 'Syntocinon' infusion before they were delivered. One patient had a Caesarean section because her labour had not advanced in spite of a 'Syntocinon' infusion for 12 hours. The final patient had an emergency Caesarean section for fetal distress.

Thirty-three patients (38.8 per cent) had not had their forewaters ruptured at the general-practitioner unit. Fifty-patients (58.8 per cent) proceeded to a normal delivery, 33 patients had a forceps delivery, and there were two Caesarean sections. Fifty per cent of the patients were delivered within six hours and 95 per cent within 12 hours of their transfer from the general-practitioner unit.

Patients transferred with delay in the second stage of labour. Thirty-nine patients were transferred with delay in the second stage of labour. Six of these proceeded to have a normal unassisted vaginal delivery. In 21 patients the position of the baby's head was occipito-anterior and they had uncomplicated Neville

Barnes forceps deliveries. One patient had primary uterine inertia and after a 'Syntocinon' infusion had a forceps delivery. Another patient had not proceeded to the second stage and after a further hour had a Neville Barnes forceps delivery. In ten patients the diagnosis of occipito-posterior position or deep transverse arrest was made; eight of these had Kielland forceps deliveries and the remaining two had ventouse deliveries.

Patients referred with fetal distress. In 25 patients (67.6 per cent) of the 37 transferred with fetal distress the diagnosis was made on the basis of meconium stained liquor. The remaining 12 patients had fetal heart irregularities. Twenty patients proceeded to have normal deliveries, 14 had forceps deliveries, two had Caesarean sections and there was one assisted breech delivery. Of the 33 patients transferred because of delay in the first stage of labour, but with intact membranes, five had meconium stained liquor when the membranes were ruptured.

Discussion

Butler and Bonham (1963), commenting on the first report of the British Perinatal Mortality Survey, emphasized the considerable risk to the baby when the mother had been transferred to hospital late in pregnancy or in labour. Such transfers are also undesirable from the mother's point of view, for psychological reasons. In this study, 201 cases transferred in labour from general-practitioner units to the consultant unit in the West Berkshire Health District, during 1975, were examined. A recent report (West Berkshire Health District, 1969) has shown that this represents about 12 per cent of patients originally booked for delivery at general-practitioner units. Several conclusions may be drawn from the study which may help reduce this figure.

The first is that the final number of patients transferred in labour need not have been as large if the recommended booking and referral policy had been followed. Over one third of the patients should have been booked at the consultant unit or referred at an earlier stage of pregnancy or labour.

In addition, there is room for improvement in the present booking and referral policy, especially where it refers to primigravidae. Primigravidae comprised nearly three quarters of the patients in this study and this seems to represent a good case for proposing that all primigravidae should be booked at a consultant unit. Of the 894 primigravidae originally booked for a general-practitioner unit, 146 (16.3 per cent) were eventually transferred to the consultant unit.

Finally, there are two aspects of management at general-practitioner units which are worthy of comment. The first is that of forewater rupture of the membranes. The number of patients referred because of delay in the first stage of labour would have been reduced had this procedure been carried out. In

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addition, by releasing the liquor such a measure provides another index of fetal well being (it is worth noting that over two thirds of the patients transferred with 'fetal distress' had the diagnosis made on the basis of meconium stained liquor). The second point about general-practitioner unit procedure is that of forceps delivery for delay in the second stage of labour. Over half the patients thus referred had uncomplicated Neville Barnes forceps deliveries. I feel that such a technique should be well within the scope of a general practitioner on the obstetric list, but as a recent study (Wilkes *et al.*, 1975) has shown, only about three per cent of obstetrically qualified general practitioners perform nine or more such low cavity forceps deliveries per year.

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Addendum

A copy of the recommended booking policy for the referral of patients in pregnancy and labour used in the Reading area can be obtained from Dr James, who is now at St Mary's Hospital, Whitworth Park, Manchester M13 0JH.

Obstetric flying squad service

Eighty-one calls made by the obstetric flying squad in West Berkshire were assessed on the basis of a suggestion that patients would do as well, if not better, if they were brought straight to hospital by ambulance rather than await the arrival of the flying squad. Of the 81 calls, 36 were made to general-practitioner maternity units and 45 were made to patients' homes. In both groups, the flying squad service was considered to be still of great value. Though slightly slower than an emergency ambulance call, it represents a much safer method of transporting an obstetric patient in an emergency.

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