OBSTETRICS IN A GENERAL PRACTICE

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The practice is situated in a small town in the Scottish Borders having a population of approximately 17,500 engaged in the manufacture of tweed and hosiery. It is surrounded by an extensive rural area containing a further 3,500 people whose occupation is mainly sheep farming. The practice is conducted from a central surgery in the town and extends widely into the rural area, the majority of patients being 5—8 miles away with some as far away as 23 miles. The principal (R. M. McG.) has been practising in the town for just over 25 years largely single-handed but in recent years with the help of assistants and trainees.

The period of this survey is the 11½ years from the inception of the National Health Service on 5 July 1948 to 1 January 1960 and during this time a yearly average of 2,441 patients were registered with the practice. Of these approximately 2/3 live in the town and the remaining 1/3 in the country area. A breakdown of the practice by age and sex shows that there is a yearly average of 462 females in the age group 15—44 years, i.e. the childbearing period.

Organization.

Since the beginning of the National Health Service it has been the routine to keep detailed records of all items of service rendered to patients. A description of this system has been given elsewhere. From these day to day records full details of all pregnancies have been extracted for the purpose of this survey.

Patients are seen at the surgery if possible, but in some cases transport difficulties from outlying districts necessitate visiting patients in their homes although efforts are made to get them to attend regularly for weighing. At the beginning of the period of survey patients were seen monthly but in recent years attendances have been increased in the later weeks of pregnancy and antenatal care

now approximates to the text-book pattern. Patients are seen during the normal consulting hours and no special antenatal clinic is run. Transport difficulties from the country area, the fact that female labour is at a premium and the many mothers who work are loath to sacrifice time and money if it is avoidable, and the difficulty in arranging " sitters " for young children are all factors which make attendance at a clinic unpopular. The embarrassment of women in late pregnancy caused by sitting in a waiting-room with men, which would be avoided by a special clinic, is probably balanced by that which would be caused to women in early pregnancy who may have no desire to announce their condition to the world at large by attendance at such a clinic.

In this area there is access to the pathological laboratory at Peel Hospital 20 miles away and specimens for routine blood examination are sent there. There is an x-ray department at the cottage hospital. The latter has 30 beds and a modern operating theatre.

The majority of deliveries take place in the Haig Maternity Home which has 13 beds and is staffed by the local general practitioners. Primigravidae are delivered here and multiparae in whom an uncomplicated pregnancy and delivery is anticipated are given the choice of home or hospital confinement as the number of beds is found to be adequate for hospital confinement for all who need or desire it. Attendance at all deliveries is routine and the patients are seen daily during the 8—10 days lying-in period.

After discharge from hospital the mother and baby are seen fairly frequently for the first few weeks as this enables advice to be given on feeding and general management, and vaccination is carried out. The mother has a postnatal examination at 4—6 weeks.

A consultant gynaecologist from the Royal Infirmary of Edinburgh holds a clinic at the cottage hospital every fortnight and his opinion is sought in cases of difficulty. Cases which will obviously require specialist supervision are admitted to the Royal Infirmary. The flying squad from this hospital provides emergency cover which entails a journey of 50 miles for them. Blood required for transfusion is obtained from Peel Hospital.

The general practitioner thus has the facilities to continue responsibility for his patients to the limit of his ability.

Material and Volume of Work

Of the women in the child-bearing years in this practice during the period of this survey, 8.6 per cent became pregnant in each year. They produced a yearly average of 40.1 pregnancies and a total for 11½ years of 461. Of these, 49 (10.6 per cent) aborted and there

was one ectopic pregnancy. There were 152 deliveries in primigravidae and 259 in multiparae. Three hundred and sixty deliveries took place in the Haig Maternity Home, 34 (8.3 per cent) in the patient's home, 12 in the Royal Infirmary of Edinburgh, one in the cottage hospital and four were delivered while on excursions to other towns (tables I and II). The delivery was attended in 375 cases.

TABLE I.

MATERIAL AND VOLUME OF WORK

Period of survey—5 July 1948 to 1 January 1960	
Practice population—yearly average	2,441
Women in age group 15—45 years—yearly average	462
Number of pregnancies—period of survey	461
Yearly average	40.1
Percentage of women in age group 15—45 years becoming pregnant each year	8.6
Number of abortions	49
Abortion percentage of total pregnancies	10.6
Number of ectopic pregnancies	1
Deliveries attended	375
Items of services rendered:—	
Surgery attendances	3,899
Home or hospital visits	7,414

TABLE II.

PLACE OF DELIVERY

	Home	Maternity home	Specialist hospital	Elsewhere	Total
Primiparae	2	145	5	—	152
Multiparae	32	215	7	5	259
Total	34	360	12	5	411

Of the abortions, 21 were treated in their homes, 26 required admission to the cottage hospital and two were dealt with elsewhere. In addition to the 12 patients delivered in the specialist hospital and the six pregnancies which terminated in other towns, the help of the flying squad was required in the case of the ectopic pregnancy and consultant advice was sought in a further six cases. The remaining 436 (94.5 per cent) of these pregnancies were supervized entirely without outside aid. The volume of work entailed in a practice of this nature can be judged from the items of service rendered to these women. During the series 3,899 surgery attenddances were registered and 7,414 home or hospital visits were required—an average of 24.5 items of service per pregnancy.

Abortions and Ectopic Pregnancies

The disposal of the 49 abortions is shown in table III. It will be seen that 21 required evacuation of the uterus and eight needed blood transfusion.

TABLE III.
ABORTIONS

	Treated at home	Treated in cottage hospital	Aborted elsewhere	Total	Required evacuation	Required blood transfusion
Primigravidae	8	12	2	22	10	2
Multiparae	13	14	—	27	11	6
Total	21	26	2	49	21	8

The ectopic pregnancy is worthy of description as it illustrates the problems faced in this area. It occurred in a para 1, aged 18 years, who lived in the country about 15 miles from the town. She requested a visit on account of lower abdominal pain and when seen she was afebrile and abdominal examination was negative. She was however, noted to have had 6 weeks amenorrhoea. A further visit was requested the same evening as the pain was now more severe and she had had slight vaginal bleeding. A diagnosis of threatened abortion was then made and because of the distance she lived away it was decided to admit her much against her will to the cottage hospital for observation. On arrival she collapsed and her blood pressure soon became unrecordable. A diagnosis of ectopic pregnancy was then made, transfusion of plasma started, and the flying squad summoned from Edinburgh. When they arrived blood was given and laparotomy was performed. An angular ectopic pregnancy was discovered and treated by excision of the cornu. The patient made an uneventful recovery in the cottage hospital.

Complications of Pregnancy

Of the 411 remaining pregnancies, 292 were entirely free from complications. The complications encountered are classified in table IV and a number are worthy of further comment.

There were 14 cases of *threatened abortion*, which were treated by the usual method of rest and sedation carried out at home, and in whom the pregnancy proceeded to term, in some cases in spite of remarkably heavy bleeding. *Hyperemesis* requiring admission to the cottage hospital was encountered on four occasions, one patient

TABLE IV.

COMPLICATIONS OF PREGNANCY AND LABOUR

Total number of pregnancies excluding abortions	411
Pregnancies with no complications in pregnancy or labour	292
Complications of Pregnancies	
Complications of early pregnancy	
Threatened abortion	14
Hyperemesis	4
Associated medical and surgical conditions	
Pyelitis of pregnancy	29
Pulmonary tuberculosis—quiescent	3
—active	1
Severe asthma	2
Rubella	2
Anaemia (Severe Hb. 50%)	
Iron deficiency	2
Megaloblastic	1
Diabetes	1
Ovarian cyst	2
Appendicitis	1
Carcinoma of larynx	1
Myxoma of perineum	1
Syphilis —acquired	2
—congenital	4
Toxaemia of pregnancy	15
Antepartum haemorrhage	
Placenta praevia	1
Accidental haemorrhage	2
Doubtful origin	4
Gross hydramnios	2
Other complications	
Rh. iso-immunization	4
Complications of Labour	
Persistent occipito-posterior and transverse arrest	
P.O.P.	
Spontaneous delivery, face-to-pubis	5
Low forceps delivery, face-to-pubis	3
Transverse arrest	
Manual rotation and low forceps	2
Malpresentation	
Breech	13
Face	1
Multiple pregnancies	
Twins	3 sets
Disproportion	
Shoulder girdle dystocia	1
Manual removal of placenta	3
Other complications	
3rd degree tear	1
Obstetric Operations	
External cephalic version	
Under gas—air anaesthetic	1
Caesarean section	3
Forceps delivery	21

suffering from this in two pregnancies which followed an almost identical course.

The two cases of *rubella* occurred after the 16th week of pregnancy and there was no foetal abnormality.

Two ovarian cysts were noted. In one, pregnancy proceeded without interference, and, in the other, pregnancy was first diagnosed at operation for the removal of the cyst. *Acute appendicitis* developed at 39 weeks gestation in one patient and a perforated appendix was removed in the cottage hospital. The patient went into labour, delivered successfully the next day and made an uneventful recovery.

One patient, at the age of 38 years had a large perineal hernia repaired. Two years later she had a recurrence of her swelling in the perineum and the abdomen was opened with the intention of repairing this from above. The swelling was found to be a myxoma which was partially removed and radio-therapy was given. After a further 2 years, the patient then being 42 years old and by this time weighing 15 stones, a swelling was noted arising from the pelvis and this was thought to be a recurrence of her tumour although the possibility of an ovarian cyst was considered. Laparotomy had been decided upon when an x-ray revealed the presence of a foetus—a rather devious method of diagnosing pregnancy. The pregnancy proceeded normally and 9 years later both mother and child are alive and well.

The *congenital syphilitic* was a woman of low intelligence who rapidly laid the foundation of a problem family, becoming pregnant five times during the series, one pregnancy ending in abortion. She was sterilized in the cottage hospital by the visiting consultant in the puerperium of her last pregnancy.

Toxaemia of pregnancy was encountered on 15 occasions. In this series pre-eclamptic toxaemia has been diagnosed when a blood pressure of 140/90 or over was recorded together with either albuminuria or oedema. In eleven of these cases management was continued in the practice and in nine a successful outcome was obtained. The remaining two produced stillbirths but in both cases there were associated congenital abnormalities which were probably the primary cause of death. It was necessary to transfer the remaining four to the specialist hospital where one had a severe accidental haemorrhage and delivered a stillborn infant spontaneously, two required induction of labour and forceps delivery, and one delivered spontaneously at term.

There were seven cases of *antepartum haemorrhage*, two of these being due to *accidental haemorrhage* and both ending in stillbirths. One was in the pre-eclamptic mentioned above and the other was in

a para 2, 22 years old, with normal blood pressure who had a severe haemorrhage at 33 weeks. The flying squad was called and she was transfused prior to transfer to the specialist hospital where she delivered spontaneously. There was one *placenta praevia* in a para 1, 38 years old who had a severe haemorrhage at 33 weeks without any previous bleeding. The services of the flying squad were again required and she was transferred to the specialist hospital where caesarean section resulted in a live birth. In the remaining four cases haemorrhage was slight and they delivered spontaneously.

Gross hydramnios occurred in two cases, one of which was associated with an anencephalic foetus and in the other there was no abnormality.

Rhesus iso-immunization occurred in four cases. A 24 year old woman who had had four previous normal pregnancies developed antibodies in her fifth and the infant was stillborn with hydrops foetalis. The husband in this case was homozygous positive.

At a subsequent pregnancy antibodies were found in the blood of the patient who had the ectopic pregnancy mentioned earlier. She was delivered in the maternity home and the infant transferred for exchange transfusion. Two further patients were transferred to the specialist hospital where live born infants requiring exchange transfusion were produced.

Complications of Labour

The complications of labour are also classified in table IV and from this it will be seen that the *persistent occipito-posterior* position occurred in eight cases, five of these delivered face-to-pubis spontaneously and three were delivered with forceps in this position. *Transverse arrest* occurred twice and manual rotation and forceps delivery was undertaken.

There were 13 *assisted breech deliveries* in the practice, nine in primigravidae, four in multiparae. One of the multiparae was delivered at home and two were second twins. There was no foetal loss (see table V).

TABLE V

Breech deliveres

	Place of delivery		Total	Foetal loss
	Home	Maternity home		
Primigravidae ..	—	9	9	—
Multiparae	1	3	4	—
Total	1	12	13	—

Face presentation was encountered once, being diagnosed in labour and transferred to the specialist hospital for caesarean section.

Three sets of twins were delivered in the maternity home. Two of these babies died in the neonatal period having weighed 4 lb. 0 oz. and 3 lb. 14 oz. at birth.

Shoulder girdle dystocia occurred in a para 1, 39 years old. The baby was stillborn and weighed 10 lb. 0 oz. and the head was delivered without difficulty.

Manual removal of the placenta was carried out on three occasions. There was no case of *postpartum haemorrhage* requiring immediate or subsequent blood transfusion.

One *3rd degree tear* was caused by a spontaneous delivery of a primigravida, the baby weighing 8 lb. 12 oz.

Obstetric Operations

It was necessary to apply forceps in 21 cases of whom 14 were primigravidae and seven multiparae. The overall rate is 5.1 per cent with rates of 9.2 per cent and 2.7 per cent for primigravidae and multiparae respectively.

The indication for forceps were:—

Second stage delay	13
Delay due to persistent occipito-posterior or transverse arrest	5
Foetal distress	2
Severe pre-eclampsia	1
Total	21

Forceps deliveries in the practice have been carried out under chloroform anaesthesia given by a second practitioner. Recently pudendal block has been introduced. No forceps deliveries were performed in the homes and there was no foetal death in the series.

Three patients required *caesarean sections;* these were carried out in the Royal Infirmary of Edinburgh. One was for placenta praevia, one for face presentation, and the third was in a primigravida with severe diabetes who had a section at 36 weeks producing a live infant of 5 lb. 15 oz.

Table VI summarizes the complications in which transfer to the specialist hospital was required.

Results

There were no *maternal deaths* in the series.

There were 11 *stillbirths* of which the causes and place of delivery are shown in table VII. Nine of these occurred in multiparae and

TABLE VI.

Transferred to specialist hospital

	Primiparae	Multiparae	Total
Severe pre-eclamptic toxaemia ..	3	1	4
Rh. iso-immunization	—	3	3
Accidental haemorrhage ..	—	1	1
Placenta praevia	—	1	1
Diabetes	1	—	1
Face presentation	1	—	1
Suspected disproportion ..	—	1	1
Totals	5	7	12

TABLE VII.

Cases of stillbirth

Cause of Stillbirth	Place of delivery			Total
	Home	Maternity home	Specialist hospital	
Congenital abnormality ..	—	3	—	3
Accidental haemorrhage ..	—	—	2	2
Premature labour	—	1	—	1
Rh. iso-immunization ..	—	—	1	1
Shoulder girdle dystocia ..	—	1	—	1
Cause doubtful	2	1	—	3
Totals	2	6	3	11

two in primigravidae. In both of the latter cases death was due to congenital abnormality (viz. spina bifida and hydrocephalus) and in both there was associated pre-eclamptic toxaemia. Pre-eclampsia was also associated with one case of accidental haemorrhage. The three deaths of doubtful cause all occurred in multiparae of 40 years or over and the deaths all took place during delivery. In one the cord was three times round the infant's neck at delivery and contained a true knot. There was, however, no real indication of the cause of death in these cases.

There were four *neonatal deaths*, three due to prematurity, the babies weighing 2 lb. 10 oz., 3 lb. 14 oz. and 4 lb. 0 oz. at birth. One baby died from cerebral haemorrhage shortly after delivery.

This gives a total of 15 perinatal deaths in this series—a rate of 36 per 1,000 live and stillbirths. Comparative rates are shown in table VIII.

There were 16 babies live born weighing less than 5½ lb. at birth and this group contained three of the neonatal deaths detailed above. The remainder were successfully reared without special equipment—

the smallest of these babies weighed 3 lb. 7 oz.

TABLE VIII.

COMPARISON WITH OTHER SURVEYS

	Period of survey	Perinatal deaths per 1,000 births	Stillbirths neonatal deaths per 1,000 births
H. G. St. M. Rees[2] ..	1948–58	34.2	—
Obstetric survey[3] ..	1954–55	33.9	—
Area of S.W. Faculty[3] ..	1954	39.0	—
Scotland[4]	1959	—	41.4
England and Wales[5] ..	1959	—	37.0
Present survey	1948–60	36.0	—

Breast feeding is encouraged in the practice, but the choice of breast or bottle must be left to the mother as successful breast feeding is impossible without her co-operation. In this series, 155 babies were being breast fed at the time of the postnatal examination at about 4—6 weeks. This is approximately 39 per cent of all surviving babies. Many reasons are advanced by the mothers for their reluctance to feed. These probably conceal lack of confidence and fear of breast feeding, poor housing conditions with overcrowding and its attendant embarrassments, unwillingness to accept limitations of their social activities and earning capacity and concern for their figure having no doubt noticed that film stars do not feed their babies.

Summary

In this paper an attempt has been made to present a picture of obstetrics undertaken in one general practice situated in a town remote from a specialist maternity unit. Details have been given of the volume and scope of the work, the difficulties encountered and the results obtained. It is suggested that where there are adequate facilities, 95 per cent of an obstetric practice can be conducted unaided by experienced general practitioners with satisfactory results.

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