*Hospital Topics***Obstetric anaesthetic services in the Yorkshire region**

R MACDONALD, D C S WEBSTER

Abstract

A survey of obstetric anaesthetic services in the Yorkshire region, where about 44 500 deliveries take place annually, showed that inadequacies exist in the service to patients. A 24 hour epidural service is available in only nine of 19 consultant units, and in about seven units patients may have to wait up to half an hour for an anaesthetist to be available for an obstetric emergency. Additional consultant anaesthetic sessions are urgently required as well as centralisation of some units.

Introduction

The Yorkshire Regional Health Authority covers roughly 5350 square miles and serves a population of 3·6 million. It is divided into 16 health districts, and roughly 44 500 deliveries take place annually in 27 maternity units, one military hospital, and (for a few deliveries each year) an infectious diseases hospital. Of those 27 maternity units, 11 are run by consultants within a district general hospital, six are isolated consultant units, eight are isolated general practitioner units, and two are within teaching hospitals. During 1984 obstetric anaesthetic services in all of these units were examined. This paper discusses anaesthetic staffing and cover in the maternity units surveyed and relates consultant obstetric anaesthetic notional half days to the availability of epidural analgesia for labour and caesarean section. Aspects of the survey relating to midwifery staffing, clinical anaesthetic practice, and the general practitioner units are not discussed here.

St James's University Hospital, Leeds LS9 7TF

R MACDONALD, PHD, FFA, consultant anaesthetist

General Infirmary, Leeds

D C S WEBSTER, MRCP, MPH, senior registrar in community medicine

Correspondence to: Dr Macdonald.

Methods

Each maternity unit was visited personally by the authors. Roughly two to three weeks before our visit a comprehensive questionnaire relating to all aspects of obstetric anaesthesia was circulated to each unit. These were sent to the designated obstetric anaesthetist or the appropriate member of the regional anaesthetic committee (or his or her nominee) or, in the case of general practitioner units, the divisional midwifery nursing officer. The person contacted could then consult other colleagues within each unit about the questionnaire before our visit. During our visit we discussed the questionnaire with the midwives, anaesthetists, and, when possible, the obstetricians and helped them complete it. To facilitate analysis of the data we have grouped the units by number of deliveries (table I).

Results

Anaesthetic staffing and cover—Table I summarises resident anaesthetic cover. Only six out of 19 consultant units had resident cover solely for the labour ward. Table II details the distribution of consultant obstetric anaesthetic notional half days specially designated for obstetric anaesthesia both between and within each group of maternity units. There were no notional half days in units with fewer than 1500 deliveries but a wide range of notional half days in units with more than 1500 deliveries. Table III shows the availability of anaesthetic cover for an obstetric emergency during the day (0900-1700), at night time (1700-0900), and on Saturdays and Sundays.

TABLE I—Classification of maternity units

Deliveries in 1983	No of units	Total deliveries in each group	No of isolated units	No of units on district general hospital site	No of units with resident anaesthetic cover solely for labour ward
<1500	13	6100	10 (includes 8 isolated general practice units)	3	0
1500-2500	8	16 500	3	5	1*
>2500	6	21 200	1	5	5*

*In one unit in each of these groups the anaesthetist for labour ward also covered intensive care and cardiopulmonary resuscitation in the hospital.

In units without residential anaesthetic cover and where the duty anaesthetist might be in theatre doing surgical emergencies it was difficult to ascertain how long it might take in practice to obtain an anaesthetist; often a consultant anaesthetist was called from home. In 11 out of 19 consultant units it took 10 or more minutes to obtain an anaesthetist during the day. At night and weekends roughly 14 of the 19 units experienced delays of 10 or more minutes in obtaining anaesthetic help.

TABLE II—Distribution of consultant obstetric anaesthetic notional half days

	Consultant maternity units		
	<1500 deliveries (5 units)	1500-2500 deliveries (8 units)	>2500 deliveries (6 units)
Total obstetric anaesthetic notional half days available to each group	0	27	50
Range of notional half days available to individual units	0	0-10	5-10
Mean deliveries per notional half day for the group	0	600	400
Range of deliveries per notional half day for individual units	0	200-1200	300-700

TABLE III—Time taken to obtain an anaesthetist in an emergency during the day and at night and weekends

Size of consultant unit (no of deliveries)	No of units	Total deliveries	Time taken during day 0900-1700 (at night and weekends)		
			<10 min	10-30 min	>30 min
<1500	5	4700	—	4 (1)	1 (4)
1500-2500	8	16 500	2 (1)	6 (?6)	(1)
>2500	6	21 220	6 (5)	—	(?1)

Availability of epidural analgesia for labour and caesarean section—In nine out of 19 consultant units epidural analgesia was easily available. A further five units endeavoured to provide this when arrangements had been made in advance and circumstances permitted (table IV). Table V relates the epidural rate within each unit to the available consultant obstetric anaesthetic notional half days. There was a wide variation in epidural rate between individual units; in most instances the greater the number of available notional half days, the higher the epidural rate. The epidural rate and the availability of epidural analgesia may be used as a measure of the adequacy of obstetric anaesthetic cover. Where anaesthetic cover was adequate at consultant level the resulting education of patients, midwives, obstetricians, and junior anaesthetists was reflected in an increased demand for and, given available anaesthetic time, administration of epidurals.

TABLE IV—Availability of epidural analgesia on request (by obstetrician, midwife, patient)

Consultant unit size	No of units	Epidurals		
		Available on request	Not available on request	By arrangement
<1500 deliveries	5	0	3	2
1500-2500 deliveries	8	3	2	3
>2500 deliveries	6	6	0	0

TABLE V—Proportion of women receiving an epidural related to the available consultant obstetric anaesthetic notional half days

Consultant unit size	No of units	Total no of consultant obstetric anaesthetic notional half days available to the group of units (range of notional half days available to individual units)	
		Mean % of women receiving an epidural (range for individual units)	
<1500 deliveries	5	5.7 (0-12.9)	0
1500-2500 deliveries	8	7.3 (0-15.8)	27 (0-10)
>2500 deliveries	6	19.1 (12-48.4)	50 (5-10)

Discussion

The anaesthetic section of the 26th report on Confidential Enquiries into Maternal Deaths in England and Wales is disheartening as, despite the decline in absolute numbers of deaths from anaesthesia, mortality per million deliveries has increased.¹ In addition, the percentage of all maternal deaths directly due to anaesthesia has actually increased during the last reported decade. Despite recommendations by the Obstetric Anaesthetists' Association on anaesthetic staffing of maternity units, the results of our survey show deficiencies in the service within the Yorkshire region. These are possibly best considered in relation to extracts from the second report from the Social Services Committee, session 1979-80.²

We recommend that every obstetric unit delivering more than 1000 women a year should have attached to it a consultant anaesthetist with at least two sessions of his contract committed to obstetric anaesthesia. In units delivering more, the number of sessions or of anaesthetists involved should be proportionally increased.

The Obstetric Anaesthetists' Association recommends one consultant notional half day per 500 deliveries up to 3000 and full cover thereafter. On these criteria there is a deficit of roughly 13 to 15 consultant notional half days in the Yorkshire region.

Lack of obstetric anaesthetic cover at consultant level has serious implications. Junior anaesthetists will not receive an adequate training in obstetric anaesthesia, and neither the midwives nor the obstetricians will be educated to appreciate the benefits of modern obstetric anaesthesia. By virtue of their training and experience anaesthetists have much to offer patients besides the provision of general anaesthesia when requested by the obstetrician—for example, management of fulminating pre-eclamptic toxemia, eclampsia, and massive blood transfusion.

The report from the social services committee also recommends "that health authorities should make every effort to provide an anaesthetic service that is available within a few minutes of receiving a call for all consultant obstetric units." While six isolated consultant units continue to exist in the Yorkshire region this recommendation will not be fulfilled as five do not have resident anaesthetic cover, either at night or at weekends.

During 1983 many general anaesthetics were given for the manual removal of retained placentas and for various vaginal and perineal procedures, which reflects the lack of available epidural analgesia for labour. Once such a service is established most units have found that their incidence of general anaesthesia, with its attendant complications, falls, not only for those procedures but also for caesarean section.

In two cities in the Yorkshire region consultants are required to provide simultaneous cover to two maternity units, each separated by a city centre. Adequate anaesthetic cover (also obstetric and neonatal) could be provided only by a large increase in staffing at all grades. Amalgamation of these units would result in roughly 6000 deliveries on the one site and would appear to be a more rational way to organise all the facilities that obstetric patients may require.

When a unit is too small to merit an anaesthetist on call solely for obstetrics the anaesthetist's duties may be more suitably combined with intensive care rather than surgical emergencies. In these hospitals the workload in obstetrics and intensive care will be such that simultaneous emergencies are rare or can be predicted.

Some hospitals use general practitioners or clinical assistants to provide obstetric anaesthetic cover. Unless there is regular updating and exchange of ideas between these people and the professional anaesthetists the patient requiring an emergency obstetric anaesthetic may receive less than an ideal service. If general practitioners or clinical assistants are employed then they must be given guidelines and encouraged to seek advice readily from the consultant on call.

Because of lack of resident cover or anxiety that the anaesthetist might be working in main theatre anaesthetic cover is often sought "in case" something might happen, such as breech and twin deliveries. During this survey the midwives reported that many junior anaesthetists were reluctant to attend for "stand by" duties.

The anaesthetists reported that they were often called too late to be able to assess the patient adequately.

It takes experience to husband obstetric and anaesthetic resources efficiently. If there is not enough participation at consultant level then neither the midwives, obstetricians, nor junior anaesthetists will receive guidance on making the best use of available resources or in anticipating crises. The social services committee report recommends "that a 24 hour service for epidural anaesthesia should be available as an important priority in consultant obstetric units." In the mid-1980s epidural analgesia can no longer be considered a luxury but a medical service that should be available to obstetric patients.

In one unit with roughly 2000 deliveries annually the midwives said they "never had a patient who would benefit from an epidural." This is a disturbing statement reflecting not only the lack of education of the midwives but also the lack of consultant anaesthetic notional half days and the isolation of the unit (see table I and II). While isolated units continue to exist throughout Britain epidural analgesia will never be readily available nationally since an anaesthetist should always be available wherever mothers receive epidurals so that he can attend within five minutes of any complication. The quality of the epidural service probably reflects not only the availability of first class obstetric general anaesthesia but also obstetric care. To quote from the third report from the Social Services Committee,³ the main recommendation in the anaesthetic section is: "We recommend that the DHSS and the profession examine ways of ensuring provision of a safe obstetric anaesthetic service throughout the country."

We think that it is the responsibility of the profession to examine anaesthetic on call arrangements for every consultant obstetric unit and to ascertain whether better arrangements can be made within available resources. It would appear to be the duty of the district and regional general managers, acting on the advice of the medical staff, to ensure the speedy centralisation of isolated obstetric units and the provision of adequate consultant anaesthetic notional half days.

Finally, a quotation from Karl Kraus (*Aphorisms and More Aphorisms*, 1909) would be appropriate: "Women's rights are men's duties." It is surely the right of every obstetric patient to expect a first class anaesthetic service should she require it.

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Occasional Review

Treatment of high blood pressure: should clinical practice be based on results of clinical trials?

R G WILCOX, J R A MITCHELL, J R HAMPTON

There is no longer any debate about the association between the height of the systemic arterial pressure and the subsequent risk of death or disability.¹ In the past the prognosis of patients with untreated malignant or accelerated phase hypertension was appalling but the benefits of treatment were easy to show and such patients were obliged to submit to surgical sympathectomy, rigorous diets, and, later, the side effects of pharmacological sympathectomy. The benefits of treatment have been less easy to show in patients with non-accelerated hypertension. Since the pioneering trials of the Veterans Administration time has complicated the issue. Firstly, diastolic blood pressure has been used as the reference point for treatment in most trials, but nowadays more attention is being paid to systolic blood pressure.^{2,3} Secondly, by the time some trials have ended the drug regimen tested has been superseded by newer products. Thirdly, as the hypertensive

population comprises different sex, age, and ethnic groups we need to know which subgroups are likely to benefit (or perhaps even be harmed) by drug intervention. Fourthly, debate continues about the potential hidden risks of long term drug treatment.^{4,5} Finally, interest in non-pharmacological remedies is growing.^{6,7}

Some doctors continue to rely on personal experience while others are influenced by the known association between high blood pressure and cardiovascular disease. Personal experience and associations established from epidemiological data should form the basis for clinical trials, not for clinical practice. In this review we analyse the effect of treatment on survival and cardiovascular events as shown by the major controlled trials and try to derive from these results a practical policy for treating patients with high blood pressure.

The trials

Nine trials of the effect of reducing blood pressure have now been completed, in which more than 50 000 patients participated (table I). At the simplest level, we should be able to assume that a trial has asked the right questions, included the right patients, and tested the right treatment. Surprisingly, several of the trials fail by even such simple criteria. If we are to

Department of Medicine, University Hospital, Queen's Medical Centre, Nottingham NG7 2UH

R G WILCOX, DM, MRCP, senior lecturer in medicine
J R A MITCHELL, MD, FRCP, professor of medicine
J R HAMPTON, DM, FRCP, professor of cardiology