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Special Article

## UK registry of high-risk obstetric anaesthesia: report on neurological disease

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**SUMMARY:** The UK registry of high-risk obstetric anaesthesia was set up in 1996 to collect reports of high-risk pregnancy, pool them into a central database and make them available to obstetric anaesthetists. This paper summarises the data relating to 102 patients with neurological disease who were reported to the registry between 1997 and 2002. The two most common conditions reported were spina bifida and multiple sclerosis. We describe the features and management of these and other cases.

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### Introduction

In 1996 the Obstetric Anaesthetists' Association (OAA) started a nationwide voluntary registry for high-risk obstetric patients, in which individual clinical experiences could be pooled in a central database and made available to its members. This registry was initially confined to cardio-respiratory diseases but was expanded to include neurological disease in 1997. The aim of this paper is to disseminate the data collected between 1997 and 2002 when the registry closed. It is important to pool our collective experience of caring for patients with neurological disease, as anecdotal evidence may be the best available relating to the effect of regional analgesia and anaesthesia in this group of pregnant women.

### Methods

All members of the OAA were sent a data-collection form and asked to submit data on all cases of neurological disease that passed through their obstetric unit. Information was requested on the type of hospital, the neurological condition, the age of the patient and the gestation when they

first presented to the obstetric anaesthetist. Data on symptoms, signs, functional impairment and current treatment were also requested, as was information about the anaesthetic and obstetric plan, whether the plan was followed and the outcome of delivery, with information about maternal and neonatal well being.

The conditions have been classified as follows:

1. Miscellaneous acquired
2. Congenital and inherited
3. Infective
4. Vascular
5. Neoplastic
6. Traumatic or surgical

Forms received between 1997 and 2002 were analysed and the data are presented here.

### Results

A total of 102 patients were reported to the registry, 75 of whom were managed in a teaching hospital and 27 in a District General Hospital. All patients were said to have been

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referred to the anaesthetic service, but the time of gestation at referral varied between 14 and 40 weeks. It was therefore not always possible to know whether referral had taken place before the patient was admitted in labour.

### Miscellaneous acquired conditions (Table 1)

#### Multiple sclerosis

Ten patients were reported with multiple sclerosis. Six were said to have varying degrees of muscle weakness and sensory changes, the extent of which was not clearly reported. The anaesthetic plans and techniques actually used are given in Table 1.

*Outcome.* Nine patients were managed in the delivery suite or the delivery suite high dependency unit (HDU). The patient who had general anaesthesia was initially managed in the general intensive care unit. The baby of this woman was born “flat” (the mother having been given remifentanyl for analgesia) but the Apgar score was normal at 10 min. The condition of all the mothers was unchanged from the antenatal period and the remaining babies were born in good condition.

#### Benign intracranial hypertension

Five patients with this condition were reported. Three had severe headaches and visual disturbances. One, who was reported to have a low IQ, complained of headache and had a lumbo-peritoneal shunt in situ. Three had repeated lumbar puncture as part of their treatment; three were on medical treatment, two on acetazolamide and one on diuretics. Their intra-partum care is summarised in Table 1.

*Outcome.* All patients were managed on the delivery suite or the delivery suite HDU. The condition of all the mothers was unchanged from the antenatal period and all babies were born in good condition.

#### Epilepsy

The pregnancy and intra-partum care of these three patients appear in Table 1.

*Outcome.* The patient on gabapentin had an epileptic fit during labour; she had an emergency caesarean section. All patients were managed post partum on the delivery suite or the delivery suite HDU. The condition of all the mothers was unchanged from the antenatal period and all babies were born in good condition.

#### Myasthenia gravis

Three patients with myasthenia gravis were reported to the registry. They were said to have muscle weakness of varying degree and one of them had ocular symptoms with weak eyelids. Two patients were on pyridostigmine 60 mg 4- to 6-hourly and the third was on pyridostigmine and azathioprine.

*Outcome.* All patients laboured normally. One patient was admitted to the HDU because of increasing weakness post partum. She needed additional steroids and neostigmine and stayed in the HDU for more than 72 h. The condition of the other mothers was unchanged from the antenatal period and all the babies were born in good condition.

#### Migraine

Two patients with hemiplegic migraine were reported. Both suffered from severe headaches. One was on regular labetalol while the other was not on any drug treatment. Their management is summarised in Table 1.

*Outcome.* All patients were managed on the delivery suite or the delivery suite HDU. The condition of all the mothers was unchanged from the antenatal period and all the babies were born in good condition.

**Table 1** Patients with miscellaneous acquired neurological diseases

Condition (n)	Type of hospital	Treatment during pregnancy	Anaesthetic plan	Actual anaesthetic technique	Mode of delivery
Multiple sclerosis (10)	7 teaching 3 DGH	none	9 planned regional 1 avoid regional	4 epidural 1 spinal 1 GA	4 ventouse 4 SVD 2 El.CS
Benign intracranial hypertension (5)	2 teaching 3 DGH	repeated LP (3) diuretic (3)	4 planned regional 1 GA	2 spinals 2 CSEs 1 GA	5 El.CS
Epilepsy (3)	3 teaching	1 gabapentin 1 lamotrigine 1 methyl-phenobarbitone	3 planned regional	1 CSE 2 epidural	1 El.CS 1 Em.CS 1 SVD
Myasthenia gravis (3)	2 teaching 1 DGH	pyridostigmine ± azathioprine	3 planned regional	2 epidural 1 Entonox	1 ventouse 2 SVD
Hemiplegic migraine (2)	2 teaching	1 labetalol	2 planned regional	1 epidural 1 spinal	1 SVD 1 El.CS
Cerebellar tonsillar herniation aetiology unknown (2)	1 teaching 1 DGH	1 none 1 steroids	2 GA	2 GA	2 El.CS

GA = general anaesthesia; El.CS = elective caesarean section; Em.CS = emergency caesarean section; SVD = spontaneous vaginal delivery.

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