40 years later: a comparison of changes in obstetric theatre case load at a single centre

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Introduction

Obstetric anaesthesia has undergone a transformation over the last 40 years to arrive in a space where the care we now deliver as routine is almost unrecognisable.

The Queens Medical Centre maternity service in Nottingham was started in September 1981 after the closure of the Peel Street Women's hospital. From 1982 it was one of two main obstetric units in Nottingham. There were and still are 2 dedicated theatres, of which one is significantly smaller and primarily for post-delivery operative cases.

In 1982 obstetric, anaesthetic and midwifery staffing were very different.

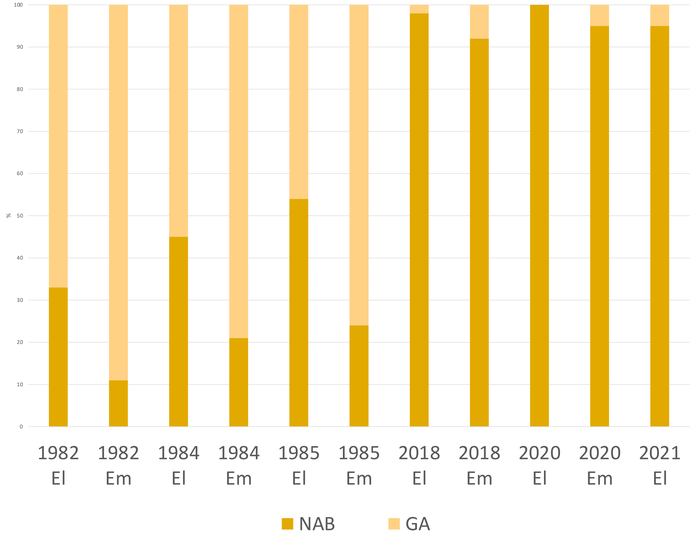


There was no dedicated obstetric anaesthetist and so women would have to wait for both epidurals and anaesthetic intervention for theatre. There were certainly no dedicated obstetric elective caesarean section lists and no specialist obstetric anaesthesia consultants. The standard practice was to perform elective cases between emergency cases at times when the labour suite workload was appropriately manageable.

A situation that has become engrained as normal practice in obstetrics.

Changes in modes of anaesthesia for LSCS between 1982 and 2021

El (elective) Em (emergency)



Methods and Results

We analysed the obstetric theatre activity from data collected in 1982, 1984 and 1985, comparing it to monthly audits from 2018, 2020 and 2021. We looked at numbers and types of cases as well as modes of anaesthesia.

- The data from 1982 to 1985 showed that there was a mean of 12 cases in obstetric theatre per week, including four elective caesarean sections.
- Monthly activity audit from 2021 showed a mean of 32 cases per week, including 10 elective caesarean sections, representing a significant increase in the numbers of cases performed within the same estate.
- Data from April 2021 showed a total of 128 cases performed within obstetric theatres, in comparison to a total of 42 cases performed in April 1982.
- Between 1982-1985 72% of cases taken to theatre for caesarean section in Queens Medical Centre were performed under general anaesthesia.
- In contrast between 2018-2021 93% were performed under neuraxial block.
- There were no recorded cases of repair of perineal tear cases being taken to theatre between 1982-1985, in contrast to 11 cases recorded in April 2021.
- Our 1980's data showed no mention of instrumental deliveries or perineal repairs in theatre. Clinicians working at the time remarked that these cases were performed on labour suite and that 3rd degree perineal injuries were much less common in an era where episiotomies were standard practice.

Discussion

Over the last 40 years obstetric anaesthetic techniques have shown a dramatic swing away from general anaesthesia. The likely driving force for this was the introduction of **mass-produced pencil point needles** in the 1990s. Prior to this only large gauge cutting spinal needles were widely available, and the headache rate was simply too high. Furthermore, the impact of the Wolley and Roe case of 1947 cannot be discounted in influencing people's attitude and creating hesitation in administering neuraxial anaesthesia to young women.[1] Opposition to spinal anaesthesia also came from the obstetricians themselves, who had concerns that *"young healthy women would be condemned to death by spinal anaesthesia for caesarean section"*.[2] The combination of the hypotensive effect of neuraxial block and caval compression created by placing a woman supine was likely to blame for this anxiety. This situation has been overcome by the routine use of vasopressors, now set up as infusions. The routine use of spinal opiates for analgesia has provided additional analgesic advantages and cemented the standard use of spinal anaesthesia in obstetrics.

As case numbers have increased, so has the likelihood of theatre cases occurring simultaneously. The prioritisation of emergency and elective surgery is hence important, based on threat to maternal and fetal life, in addition to other burdens associated with delays. Vaginal tears can have ongoing blood loss, category 2 cases can also culminate in fetal compromise and women can endure pain and distress whilst awaiting operative intervention. Maternal experience certainly suffers during these delays be they in elective or emergency cases. At a time when obstetrics is becoming increasingly complex and challenging, this highlights the importance of **being open to change, monitoring workload and funding growth** within our speciality.

As obstetric anaesthesia develops, maternal and fetal safety is always at the forefront of care. Developments in the management massive obstetric haemorrhage, vasopressor use and the standardisation of failed intubation drills are but a handful of areas where huge progress has been made. The landscape of our anaesthetic practice is changing and taking a moment to reflect on the journey that has brought us to modern day obstetric anaesthesia is remarkable.

It should also highlight the creeping changes in workload that should also be regularly documented and appropriately met by service expansion.
Nationally such changes in service and workload are likely to be replicated across the country and should act as a reminder of the regular need for service evaluation and development supported by appropriate funding.

References

1. Maltby JR, Hutter CD, Clayton KC. The Woolley and Roe case. Br J Anaesth. 2000 Jan;84(1):121–6.
2. Williams B, The Present Place of Spinal Subarachnoid Analgesia in Obstetrics, BJA Br J Anaesth, 1969 Jul 1;41(7):628–34.