

## ORIGINAL ARTICLE

# Contraindications to regional anaesthesia in obstetrics: a survey of German practice

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**Background:** We assessed current practice regarding indications and contraindications to regional analgesia and anaesthesia for labour and delivery in Germany.

**Methods:** Questionnaires were mailed to the directors of 918 German departments of anaesthesiology.

**Results:** A total of 397 completed replies were received representing 41.3% of all deliveries in Germany. More than half of the respondents never perform spinal or epidural anaesthesia when the platelet count falls below  $65 \times 10^9/L$ . Preeclampsia, which was not graded for severity, was considered an absolute contraindication to regional block by 15% and placenta praevia by 30% of respondents. If a woman had taken aspirin three days before, the numbers of respondents considering epidural anaesthesia contraindicated (40.2%) were nearly double those considering spinal anaesthesia contraindicated (21.7%) ( $P < 0.001$ ). For a platelet count of  $79 \times 10^9/L$ , epidural anaesthesia was thought to be contraindicated by 37% and spinal anaesthesia by 22.2% ( $P = 0.001$ ). In departments with  $<500$  deliveries/year, reluctance to use regional blockade was more pronounced than in departments with  $>1000$  deliveries/year.

**Conclusion:** Clinical practice varies considerably in Germany. Concerns regarding the use of regional blockade were more prevalent in hospitals with small delivery units. Indications and contraindications are not consistent in Germany and some recommendations or guidelines are needed.

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## INTRODUCTION

Recent years have seen a dramatic shift away from general anaesthesia in obstetrics in favour of regional anaesthesia. In the UK, anaesthetists have been influenced by the findings of the Confidential Enquiries into Maternal Deaths, which have repeatedly highlighted the advantages of using regional anaesthesia in pregnancy. Furthermore many women wish to remain awake during childbirth. In Germany, the use of regional anaesthesia

in obstetrics has become more widespread only in the last decade. A survey conducted in 1996 revealed that general anaesthesia was still the preferred technique for caesarean section, although it had decreased in popularity since the 1980s.<sup>1</sup> The 2002 re-evaluation indicated that the rate of regional anaesthesia for elective caesarean section had increased to 73.5% from a value of 39% six years previously.<sup>2</sup> Spinal anaesthesia became the preferred technique and was performed in 50%, 35% and 5% of the patients presenting for elective, urgent and emergency caesarean delivery, respectively.

Epidural analgesia is the most effective way to relieve labour pain. However, in Germany there has been considerable variation in epidural rates; figures being significantly influenced by the annual number of deliveries.<sup>3</sup> Data from the 1990s revealed that for vaginal delivery 43% of departments had epidural rates of  $<10\%$ , 22% had rates between 10–19%, 14% 20–29% and only 15% had rates in excess of 30%.<sup>1,3</sup>

For emergency caesarean section, an epidural block can readily be extended to provide surgical anaesthesia. Furthermore, where rapid onset of blockade is best

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avoided epidural anaesthesia may be preferred. However, regional anaesthesia rates remain low in Germany, at 48.3% and 5.8% for urgent and emergency surgery respectively.<sup>2</sup>

Despite the benefits of regional anaesthesia, the technique is not without side effects, consequently there are a number of recognised contraindications to its use. There is no consensus view in Germany at present on the minimum platelet count at which regional blocks can be performed safely.<sup>4,5</sup> Similarly, the use of regional anaesthesia is controversial in patients with placenta praevia in whom significant haemorrhage is likely or where there is chorioamnionitis and the possibility of infectious complications. Consequently we conducted a questionnaire to evaluate German anaesthetists' attitudes to the use of regional blocks in high-risk pregnancy.

## METHODS

A survey was mailed to all 918 directors of anaesthesiology departments in hospitals with obstetric units. Mailing addresses were provided by the German Hospital Registry. To increase the number of responses, replies were anonymous. The questionnaire contained a number of multiple choice questions with additional space allowing for written comments (Appendix). In addition to demographic data, information was requested on delivery rates and obstetric anaesthesia workload during 2002 and 2003. The questionnaire asked specifically about a number of clinical scenarios in which the use of regional blocks was controversial such as preeclampsia, placenta praevia and chorioamnionitis. Responders were asked whether such conditions represented absolute, relative or no contraindication to the use of epidural or spinal anaesthesia.

The results were analysed using Statistica for Windows 6.0. Hospitals were divided into small units 200-500, medium units 500-1000 and large units > 1000 deliveries/year. For comparison of groups ANOVA and  $\chi^2$  tests were used, adopted for multiple testing. A *P* value of <0.05 was considered significant.

## RESULTS

Of the 918 questionnaires mailed, 432 were returned; a response rate of 47.1%. Of these, 397 were suitable for analysis. A total of 35 questionnaires were not completed sufficiently or the obstetric department had been closed. Of the responding departments, 323 (81.3%) were in the western part and 74 (18.6%) in the eastern part of Germany. According to data from the Federal Office of Statistics (Statistisches Bundesamt, edition

4/2003) this corresponds to the population distribution of Germany (west 83.3%; east 16.7%). Of those who replied, 30 (7.6%) were from university hospitals, 123 (31.0%) academic teaching hospitals and 167 (42.1%) other hospitals. Seventy-seven (19.4%) did not indicate their category. Mean annual delivery rate amongst responders was 749 (SD 407), a value similar to that for all obstetric departments in Germany (Table 1).

For labour analgesia 18% (IQR: 7.3-26.5) of the parturients received a regional block. There was a significant difference in the use of regional analgesia with the size of the unit. Regional analgesia was used in 12.8%, 18.6% and 21.6% (*P* < 0.001) of the parturients in small, medium sized and large units, respectively. For elective caesarean section spinal, epidural and general anaesthesia were used in 50.5%, 21.6% and 26.6% of the patients.<sup>2</sup> In case of urgent caesarean delivery, half of the cases were performed using general anaesthesia, with this figure rising to 93.5% in the case of an emergency.<sup>2</sup>

When managing a caesarean section for multiple pregnancies or repeat caesarean section, less than 10% regarded this as a contraindication (Table 2). However, communication difficulties arising from foreign language speaking patients leading to failure to obtain consent was reported as a relative contraindication by more than half of respondents. When the preoperative haemoglobin was less than 8 g/dL, half of responders were happy to use a regional block. However, about 10% perform neither spinal nor epidural anaesthesia with a haemoglobin less than 8 g/dL. Ingestion of aspirin three days before of surgery increased the percentage of anaesthetists who would not perform spinal or epidural anaesthesia to 20.7% and 40.2%, respectively (Table 2). There were no differences between small, medium and large obstetric units in the numbers considering epidural anaesthesia to be absolutely contraindicated (42%, 39% and 41%, respectively). There was a slightly more liberal opinion towards spinal anaesthesia, with 24%, 22% and 16% of the small, medium and large obstetric units respectively considering it contraindicated (*P* > 0.05).

**Table 1.** Number (%) of the 397 hospitals responding allocated to deliveries/year

Deliveries/year	Departments responding to survey	Total number of German departments
<250	16 (4.0)	63 (6.4)
251-500	112 (28.2)	324 (33.1)
501-750	105 (26.4)	254 (25.9)
751-1000	72 (18.1)	132 (13.5)
1001-1250	44 (11.1)	94 (9.6)
1251-1500	27 (6.8)	52 (5.3)
1501-2000	16 (4.0)	43 (4.4)
>2000	5 (1.3)	16 (1.6)

Data are numbers (%).

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