

The trends of obstetric anesthesia practice: In a tertiary care center in the Kingdom of Saudi Arabia

ABSTRACT

Introduction: Obstetric anesthesia provides several methods for the analgesia of labor pain. The neuraxial technique is considered the standard of care for parturient women. The epidural block is widely used in vaginal delivery while the spinal block is the preferred method for cesarean section (C-section). We aim to know the practice of obstetric anesthesia in our center.

Methods: A retrospective cross-sectional study was conducted at a tertiary center in Riyadh, Saudi Arabia. The data of all delivery cases from 1/7/2019 to 30/9/2019 were reviewed.

Results: We identified a total of 2,140 cases during the 3 months, vaginal delivery was the most common with 72.4% (1550) while the C-section cases were 27.6% (590). Regarding the type of analgesia/anesthesia for vaginal deliveries, intramuscular analgesia was the commonest group with 34.8% (540), followed by the group of ladies who did not receive any analgesia/anesthesia with 31.9% (495), thirdly was epidural cases with 31.8% (493), and the fourth type was spinal 0.6% (10). Regarding C-section, the emergency cases were 65.4% (386). The types of anesthesia for all C-sections were as follows spinal 63.5% (375), GA 23.8% (141), and epidural 12% (74). Regarding anesthesia for elective cases, spinal was 85% (174), GA 14% (28), and epidural 1% (2). Regarding anesthesia for emergency cases, spinal was 52% (201), GA 29% (113), and epidural 19% (72).

Conclusions: The use of epidural was low, and the spinal use was relatively on par if we compare with leading western countries. More focused studies and multicenter studies are needed in the country.

Key words: Epidural; obstetric anesthesia; spinal

Introduction


In obstetric anesthesia, it is important to know that in spontaneous vaginal delivery (SVD), analgesia is considered optional for the patients.^[1] Unlike, cesarean section (C-section) where the analgesia is required to perform.^[2] Obstetric

anesthesia provides several methods for the analgesia of labor pain.^[3] The neuraxial technique is one of the means of locoregional anesthesia, and it is considered the standard of care for parturient women.^[4,5] The epidural block is widely used in SVD while the spinal block is the preferred method

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MOHAMMED ALSHABIBI^{1,2}, AZZA M. MADKHALI^{2,3}, AMER A. ALKINANI^{2,4}, ALI A. ALYAMI^{1,2}, ABDULALEEM ALATASSI^{2,5}

¹King Saud Bin Abdulaziz University for Health Sciences, ²King Abdullah International Medical Research Center, Departments of ³Obstetrics and Gynecology and ⁴Anesthesia, King Abdulaziz Medical City, ⁵Department of Pediatric Anesthesia, King Abdullah Specialized Children Hospital, Riyadh, Saudi Arabia

Address for correspondence: Dr. Mohammed Alshabibi, Medical Intern at King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia. E-mail: m7mdibrahim1@outlook.com. A retrospective cross-sectional study.

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for C-section.^[4,5] We aim to investigate the trends of obstetric anesthesia in our center.

Method

This is an observational retrospective cohort study in which we collected the data from the hospital electronic system from the period 1/7/2019 to 30/9/2019. Our institution is a governmental tertiary care center with around 1,500 beds. Nonprobability consecutive sampling technique was used to collect the data from the Anesthesia and Obstetric departments. Essential information from the patients' files was extracted to a data collecting sheet including the following variables: age, height, weight, BMI, gestational age, parity, American Society of Anesthesiologists (ASA) classification, mode of delivery, type of vaginal delivery, status of C-section, and type of analgesia/anesthesia. The inclusion criteria were pregnant ladies more than 20 weeks of gestation, pregnant patients who underwent vaginal delivery, and pregnant patients who underwent C-section. The exclusion criteria were patients reports missing essential information and pregnant ladies less than 20 weeks of gestation. This study was conducted under the permission of the Institutional Review Board at the Medical Research Center. Descriptive statistics were used for statistical analysis.

Results

We identified a total of 2,140 cases during the 3 months period which fulfilled our inclusion criteria. The most common age group was 26–35 55.2% (1182) followed by 18–25 22.5% (482), 36–45 21.6% (463), and <18 0.4% (9), respectively, with an average of 30 years [Table 1]. Regarding BMI, the most common group was obesity grade I accounting for 30.7%, (657) second group was overweight with 30.2 (647) then obesity grade II 16.5% (354), normal 14.5% (310), and obesity grade III 7.2% (155), respectively [Table 2]. For parity, the multiparous group was 77.8% (1665). Term pregnancy was the most common group accounting for 85.8% (1836) followed by preterm 13.6% (290). For the mode of delivery, vaginal delivery was the most common with 72.4% (1550) while C-section cases were 27.6% (590). In our data, spontaneous vaginal delivery was the most common with 95.8% (1485). When looking at the type of analgesia/anesthesia, intravenous and intramuscular analgesia, mainly intramuscular meperidine was the commonest group with 34.8% (540) followed by the group of ladies who did not receive any analgesia/anesthesia with 31.9% (495) thirdly was epidural cases with 31.8% (493), and the rest were spinal 0.6% (10), entonox 0.5% (8), and intrathecal morphine 0.3% (4) [Table 3]. For the primiparous

Table 1: Age groups

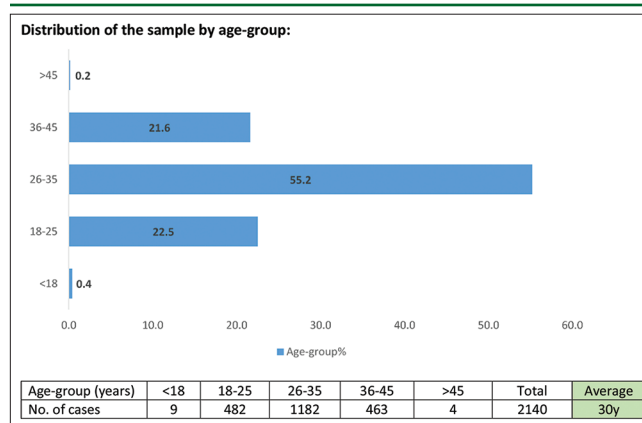


Table 2: BMI groups

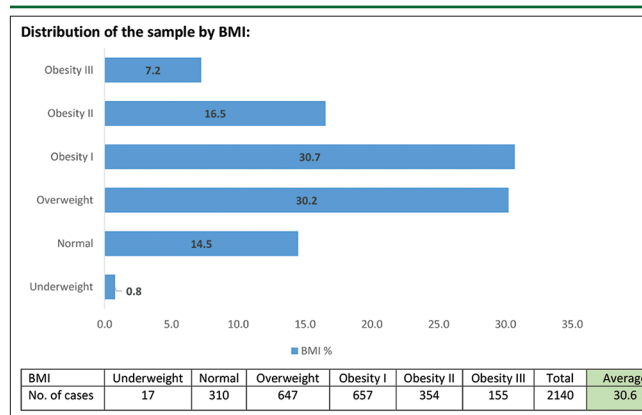
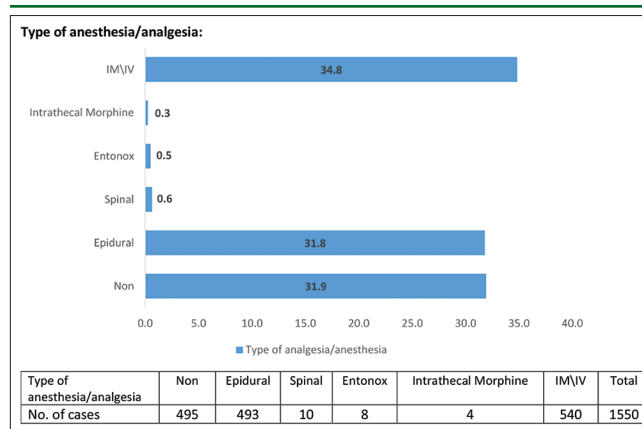


Table 3: Type of anesthesia/analgesia for vaginal deliveries



female patients who ended up with vaginal delivery, we found that 50.7% (176) had epidural while for multiparous females, 29.4% (317) of them had epidural [Table 4]. Regarding C-section, emergency cases were 65.4% (386). The types of anesthesia of all C-section cases were as follows spinal 63.5% (375), GA 23.8% (141), and epidural 12% (74) [Table 5]. About anesthesia for elective cases, spinal was 85% (174), GA

Table 4: Mode of delivery

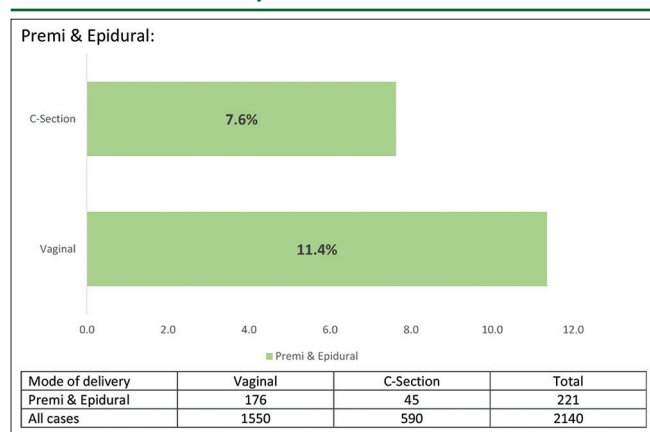
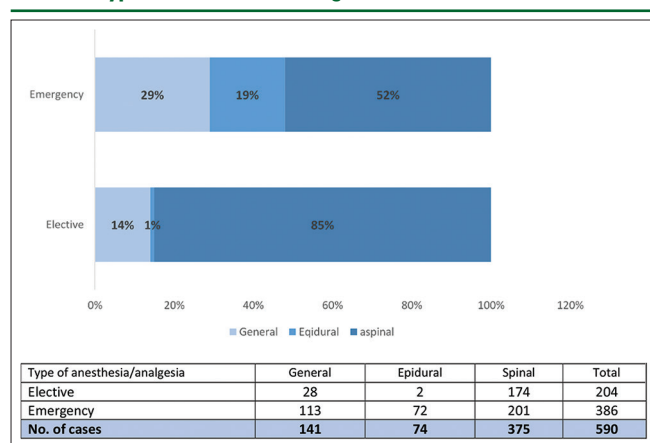


Table 5: Type of anesthesia/analgesia in CS



14% (28), and epidural 1% (2). About anesthesia for emergency cases, spinal 52% (201), GA 29% (113), and epidural 19% (72).

Discussion

In this study, we aimed to know the practice of obstetric anesthesia in Saudi Arabia. However, up to our literature review, there are no previous studies in the country to compare, and we looked at both vaginal deliveries and C-sections to compare our practice with other western countries. If we look at the vaginal deliveries, the type of analgesia that was found to be the most commonly used method was intramuscular analgesia in about 34.8% (540) of all vaginal cases. The second most common method was epidural which constituted 31.8% (493). Moreover, we found that primiparous women were about 35.6% (176) of all cases who received epidural. The use of epidural was low in our study when knowing that the push of epidural as the best method of analgesia of labor pain since the 1990s.^[4] Also, if we compared our data to a study done in the US where the use of epidural was over 65% of all vaginal deliveries.^[5] Comparing our use of epidural for vaginal delivery in our

region, we found that in Israel the use of epidural was up to 50% in all vaginal cases.^[6] The patients who did not receive any type of analgesia were 31.9% (495), which raises a lot of questions when knowing that there are multiple safe ways to reduce the pain labor. There have been studies in the country to know about the awareness about epidural in the case of labor pain. One study found that after education about the matter, women are more likely to opt for epidural.^[7] Another study concluded that if the woman has had epidural in a previous delivery, she is more likely to go for it.^[8] However, up to our knowledge, there has not been any study that emphasizes on women’s reasoning for not going with any type of analgesia. There is consensus in the community and for practicing physicians like religious, cultural, and misconceptions about the side effect, but there was no study that elaborated on it.

Regarding the 590 C-section cases, the elective cases constituted 34.6% (204). When we compared the practice in our study for all C-sections to Israel. We had rates of using spinal anesthesia at 63.6% and GA to be 23.9%, whereas, in Israel, it was 68% and 15%, respectively.^[6] When looking at the anesthesia that was provided for elective C-section cases, spinal anesthesia was the leading technique making about 85.2% (174) followed by general anesthesia (GA) 13.7% (28), and lastly epidural. The use of GA in elective cases in our facility is relatively considered in line with western countries like the US 5%, the UK 15%, and Germany 10%.^[9] When it comes to emergency cases, they accounted for 65.4% (386). Regarding the distribution of anesthesia methods that were provided, spinal anesthesia also was the most provided method about 52.07% (201) followed by GA which was 29.2% (113), and last here also was epidural.

During the period of our study, there were no documented immediate complications due to anesthesia.

Conclusion

Our study might give a glimpse of the practice of obstetric anesthesia, but it does not reflect the practice in the whole country. Multicenter studies are needed to reflect on the reality of what is being done. Moreover, more focused studies are needed in vaginal deliveries for the use of epidurals and the rate of success and failure rates. The low rates of epidurals and high rates for not opting for any type of pain relief need to be investigated. Moreover, for C-section cases, studies are needed to elaborate on the rates and reasons for conversions to GA.

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Conflicts of interest

There are no conflicts of interest.

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