Transversus abdominis plane block versus epidural morphine in post-caesarean analgesic management. A retrospective study.

N. Margarit Estragués¹, G. Mestres González¹, M. Pérez Poquet¹, A. Cebrián Moreno¹, S. Gasca Pera¹, M. Marín Moya¹, À. Jaen Manzanera², C. Pérez Torrentó¹.

¹Hospital Universitari Mutua Terrassa, Anaesthesiology, Terrassa, Spain.

²Hospital Universitari Mutua Terrassa, Research department, Terrassa, Spain

Background and Aims

Ultrasound-guided transversus abdominis plane (TAP) block and epidural morphine after caesarean section (CS) are performed for providing pain relief after CS. In this study we wanted to compare the analgesic effect between both techniques.

Methods

After the approval from the ethical committee, we included all CS performed between August 2017 and March 2018 in our centre. Exclusion criteria were: younger than 18 years old, CS performed under general anaesthesia, not protocolized postoperative intravenous analgesia and chronic treatment with opioids. Patients (n= 167) were placed in two groups, T group or group TAP block of elective CS (n=85) and M group or group epidural morphine of non-elective CS (n=82) (Table 1). The primary outcome was pain evaluated with the visual analogue scale (VAS) from 0 to 10. We considered pain if VAS was greater than 3. It was registered at post-anaesthesia care unit (PACU) at 4, 8, 12 and 24 hours postoperative. Data was analyzed by the Fisher's exact test. Secondary outcome was the need of intravenous analgesia rescue in the first 24h after CS.

Results

Pain incidence was lower in the M group at 4, 8 and 12 hours postoperative (4h 6.1% versus 30.6% p<0.0001), (8h 3.66% versus 14.12% p<0.028) and (12h 0% versus 10.6% p<0.003) (Figure 1). Differences between T group and M group at the PACU and at 24 hours postoperative were not statistically significant. Moreover, median number of intravenous analgesia requested doses between 0 and 24h was lower in M group [0.5 (95% CI 0.35-0.65)] than in T group [1.081 (95% CI 0.85-1.31)] (Figure 2). No complications were reported.

Conclusions

Epidural morphine was more effective than TAP block after CS between 4 and 12h postoperative. This data is consistent with epidural morphine pharmacodynamics. According to these findings it doesn't seem reasonable to choose TAP block over morphine in CS patients with an epidural catheter. Further studies are necessary to prospectively evaluate analgesia after CS.

Total patients 263	Inclusion group 167	Morphine	82
		TAP block	85
	Exclusion group		96

Table 1: Distribution of total patients among different groups.

Figure 1: Percentage of patients with postoperative pain (VAS>3) at different times after caesarean section. Comparison between epidural morphine and TAP block. *Statistically significant.

Figure 2: Median number of analgesia requested doses received between 0 and 24h after CS. Comparison between epidural morphine and TAP block. * Statistically significant.

1. Ripollés J, Mezquita SM, Abad A, Calvo J. Analgesic efficacy of the ultrasound-guided blockade of the transversus abdominis plane – a systematic review. Brazilian J Anesthesiology (English Ed.); 2015; 65:255–80.
2. Niraj G, Kelkar A, Jeyapalan I, Graff-Baker P, Williams O, Darbar A, et al. Comparison of analgesic efficacy of subcostal transversus abdominis plane blocks with epidural analgesia following upper abdominal surgery. Anaesthesia. Blackwell Publishing Ltd; 2011;66:465–71.
3. F. W. Abdallah, J. G. Laffey, S. H. Halpern, R. Brull; Duration of analgesic effectiveness after the posterior and lateral transversus abdominis plane block techniques for transverse lower abdominal incisions: a meta-analysis, BJA: British Journal of Anaesthesia; 2013; 111:721–735.