

Yusof, Norhidayah¹; Ngoi, Soo Tein¹; Hussain, Nur Azreen²; **Damanhuri, Mayura¹**
¹Universiti Malaya Medical Centre, Kuala Lumpur, Malaysia ; ²Universiti Malaya, Kuala Lumpur, Malaysia

Background:

- Intraoperative pain during caesarean section (CS) under neuraxial anaesthesia remains an under-recognised clinical problem
- Associated with significant psychological trauma and medicolegal implications
- Limited prospective data from middle-income settings

Objectives:

- To determine **incidence, predictors, and clinical characteristics** of intraoperative pain

Methods:

- This prospective observational study was conducted at Universiti Malaya Medical Centre between July and November 2024.
- Institutional approval was obtained
- Women aged 20 to 45 years undergoing **elective or emergency CS under spinal, epidural or combined spinal-epidural anaesthesia** were consecutively recruited (**n=208**)
- Intraoperative pain was assessed at predefined surgical stages using a verbal numerical scale (VNS)
- Clinically significant pain** was defined as pain **requiring additional analgesic or anaesthetic intervention**
- Self-reported pain** was defined as **VNS ≥1 without intervention**
- Demographic, anaesthetic and surgical variables were analysed
- Logistic regression was performed to identify predictors

1 in 5 women experienced
intraoperative pain (20.2%)

 **Incidence**
Overall: 20.2% (42/208)
Elective vs Emergency:
18.2% vs 21.7%

Pain during Caesarean delivery	Frequency (%)			P value ^a
	Total (n = 208)	Elective (n = 88)	Emergency (n = 120)	
No pain	166 (79.8)	72 (81.8)	94 (78.3)	0.536
Pain	42 (20.2)	16 (18.2)	26 (21.7)	

^a Pearson Chi-square test was applied with a significance level set at 0.05

 **Clinically Significant Pain**
16.8% (35/208) required intervention
GA conversion: 1.0% (2/208)

 **Clinical Characteristics of Intraoperative Pain**

Timing	Nature of pain
Most common during closure (45%) Delivery (33%) Uterine incision (19%) Skin incision (19%)	Sharp / searing (42.9%) Deep pressure (33.3%) Others: tingling, stabbing

 **Predictors**
Variables examined: demographic, obstetric, anaesthetic and surgical factors (including gravidity, parity, anaesthetic technique and surgical duration)

Multivariate analysis identified **two independent predictors:**
1) Epidural/CSE vs spinal
→ **OR 2.5 (1.19–5.45)**

2) Longer surgery
→ **OR 1.1 per minute**

Discussion and Conclusion:

- Intraoperative pain during caesarean section **remains common**, affecting 1 in 5 women under neuraxial anaesthesia
- Pain exists along a **spectrum**, from self-reported discomfort to that requiring intervention
- This highlights that intraoperative pain is **not solely a technical failure**, but a patient-reported experience
- Vigilance, communication, and proactive pain management are key to improving patient experience

References:1) Keltz A, Heesen P, Katz D, et al. Intraoperative pain during caesarean delivery: incidence, risk factors and physician perception. Eur J Pain. 2022;26(1):219–226. 2) Kinsella SM. A prospective audit of regional anaesthesia failure in caesarean sections. Anaesthesia. 2008;63(8):822–832. 3) Patel R, Kua J, Sharawi N, et al. Inadequate neuraxial anaesthesia in elective caesarean section: a systematic review. Anaesthesia. 2022;77(5):598–604. 4) Plaat F, Stanford SER, Lucas DN, et al. Prevention and management of intra-operative pain during caesarean section. Anaesthesia. 2022;77(5):588–597. 5) Keita H, Deruelle P, Bouvet L, et al. Raising awareness to prevent, recognise and manage acute pain during caesarean delivery. Anaesth Crit Care Pain Med. 2021;40(5):100934. 6) Sanchez J, Prabhu R, Guglielminotti J, Landau R. Pain during cesarean delivery: incidence and risk factors. Anaesth Crit Care Pain Med. 2023;42(3):101310. 7) Roofthoof E, Joshi GP, Rawal N, Van De Velde M. PROSPECT guideline for elective caesarean section. Anaesthesia. 2022;76(5):65–80. 8) Oglesby FC, Ray AG, Shurlock T, Mitra T, Cook TM. Litigation related to anaesthesia: analysis of NHS claims 2008–2018. Anaesthesia. 2022;77(5):527–537. 9) McCombe K, Bogod DG. Learning from the Law: litigation for pain during caesarean section. Anaesthesia. 2018;73(2):223–230.