

## Césarienne

ID: 233

# Prevalence and risk factors for pain at the beginning of cesarean section during labor: A population-based study

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### Position du problème et objectif(s) de l'étude:

Acute pain at the beginning of caesarean is regularly reported in clinical practices, particularly in the context of emergency, and may have deleterious consequences for the mother. However, the epidemiology of pain during caesarean section remains poorly studied. We aimed to explore the prevalence and risk factors for acute pain at the beginning of caesarean section during labour.

### Matériel et méthodes:

The study population was extracted from the 2021 National Perinatal Survey, a French population-based cross-sectional study, and consisted of all the women who delivered by caesarean section during labor. Numerical Rating Score at the beginning of caesarean section was collected during the women's interview in the postpartum period. Risk factors for having moderate to severe acute pain, defined by numerical rating score  $\geq 4$  at the beginning of caesarean section were explored by uni- and multivariable multilevel analysis after adjustment for maternal, pregnancy, delivery, and organizational characteristics, with multiple imputation. Subgroup analyses were performed among women who had a labour neuraxial analgesia.

The national perinatal survey is a public statistics survey and received authorizations from the CPP (July 7, 2020), and from the CNIL (DR-2020- 391 of December 31, 2020).

### Résultats & Discussion:

The study population included 1200 women, with 298 women reporting moderate to severe acute pain at the beginning of caesarean section (24.8%, 95%Confidence Interval (95%CI) [22.6-27.5]). Factors associated with pain were a low education level (adjusted Odd Ratio (aOR) 1.43 IC95% [1.00-2.05]), a literacy score  $< 3.5$  (aOR 1.94 [ 1.15-3.29]), a deprivation index  $\geq 2$  (aOR 1.86 [1.01-3.04]), and general anaesthesia preceded (aOR 4.53 [2.59-8.27]) or not (ORa 3.82 [1.44-10.09]) by labour neuraxial analgesia. Among women who had labour neuraxial analgesia, moderate to severe acute pain at the beginning of caesarean was significantly associated with ineffective analgesia during labour (aOR 2.49 [1.72-3.61]), low education level (aOR 1.69 [1.13-2.52]), and general anesthesia (2.49 [1.64-5.54])

### Conclusion:

In France, 1 in 4 women giving birth by caesarean section during labour presents moderate to severe pain at the beginning of the surgical procedure. A specific attention should be kept on deprived women, as well as on low educated women.

Identified risk factors suggest that improving the quality of labour neuraxial analgesia as well as of general anaesthesia would help preventing this preoccupating complication.

### Remerciements:

Les auteurs déclarent ne pas avoir toute relation financière impliquant l'auteur ou ses proches (salaires, honoraires, soutien financier éducationnel) et susceptible d'affecter l'impartialité de la présentation.