American Pain Society
RESEARCH
EDUCATION
TREATMENT
ADVOCACY
PUBLISHED BY ELSEVIER

The Journal of Pain, Vol 16, No 11 (November), 2015: pp 1136-1146
Available online at www.jpain.org and www.sciencedirect.com

The Role of Psychological Factors in Persistent Pain After Cesarean Delivery

Brice Richez,* Lemlih Ouchchane,[†,‡,§] Aline Guttmann,[†,‡,§] François Mirault,[¶] Martine Bonnin,[‖] Yves Noudem,[**] Virginie Cognet,[††] Anne-Frédérique Dalmas,[‡‡] Lise Brisebrat,[§§] Nicolas Andant,[¶¶] Sylvie Soule-Sonneville,[¶¶] Claude Dubray,[‡,¶¶,‖‖] Christian Dualé,[¶¶,‖‖] and Pierre Schoeffler[‡,¶¶,***]

**CHU Bordeaux, Département d'Anesthésie-Réanimation 1, Hôpital Pellegrin, Bordeaux, France.*
[†]CHU Clermont-Ferrand, Pôle Santé Publique, Clermont-Ferrand, France.
[‡]Univ Clermont1, Clermont-Ferrand, France.
[§]CNRS, ISIT, UMR6284, BP10448, Clermont-Ferrand, France.
[¶]Clinique de la Chataîgneraie, Anesthésie-Réanimation, Beaumont, France.
[‖]CHU Clermont-Ferrand, Pôle Anesthésie-Réanimation-Estaing, Gynécologie-Obstétrique-Reproduction humaine, Clermont-Ferrand, France.
***CHU Strasbourg, Anesthésiologie, Hôpital de Hautepierre, Strasbourg, France.*
[††]CHU Lyon (HCL), Anesthésie-Réanimation, Centre Hospitalier Lyon-Sud, Pierre-Bénite, France.
[‡‡]CHU Lille, Anesthésie-Réanimation, Hôpital Jeanne-de-Flandre, Lille, France.
[§§]CHG Roanne, Anesthésie-Réanimation, Roanne, France.
[¶¶]CHU Clermont-Ferrand, Centre de Pharmacologie Clinique, Clermont-Ferrand, France.
[‖‖]Inserm, CIC1405 & U1107 "Neuro-Dol", Clermont-Ferrand, France.
****CHU Clermont-Ferrand, Pôle Anesthésie-Réanimation, Hôpital Gabriel-Montpied, Clermont-Ferrand, France.*

Abstract: **This French multicenter prospective cohort study recruited 391 patients to investigate the risk factors for persistent pain after elective cesarean delivery, focusing on psychosocial aspects adjusted for other known medical factors. Perioperative data were collected and specialized questionnaires were completed to assess reports of pain at the site of surgery. Three dependent outcomes were considered: pain at the third month after surgery (M3, n = 268; risk = 28%), pain at the sixth month after surgery (M6, n = 239; risk = 19%), and the cumulative incidence (up to M6) of neuropathic pain, as assessed using the Douleur Neuropathique 4 questionnaire (n = 218; risk = 24.5%). The neuropathic aspect of reported pain changed over time in more than 60% of cases, pain being more intense if associated with neuropathic features. Whatever the dependent outcome, a high mental component of quality of life (SF-36) was protective. Pain at M3 was also predicted by pain reported during current pregnancy and a history of miscarriage. Pain at M6 was also predicted by report of a postoperative complication. Incident neuropathic pain was predicted by pain reported during current pregnancy, a previous history of a peripheral neuropathic event, and preoperative anxiety.**

Trial Registration: **ClinicalTrials.gov, NCT00812734.**

Perspective: ***Persistent pain after cesarean delivery has a relatively frequent neuropathic aspect but this is less stable than that after other surgeries. When comparing the risk factor analyses with published data for hysterectomy, the influence of preoperative psychological factors seems less important, possibly because of the different context and environment.***

© 2015 by the American Pain Society

Key words: *Neuropathic pain, chronic pain, cesarean delivery, postsurgical pain, Douleur Neuropathique 4.*

Received April 1, 2015; Revised July 7, 2015; Accepted August 5, 2015.
This study was funded by the French Program for Hospital Clinical Research (Programme Hospitalier de Recherche Clinique, appel d'offre national 2005) and Pfizer. Christian Dualé, as the coordinating investigator, had support from Pfizer for the conduct of the study, by subsidies paid to the University Hospital of Clermont-Ferrand, and for giving a presentation including the results of the study and discussing neuropathic postsurgical persistent pain at the EFIC Congress in Hamburg, Germany (September 2011). None of the other authors had relationships with any company that might have an interest in the submitted work in the previous 3 years.
Supplementary data accompanying this article are available online at www.jpain.org and www.sciencedirect.com.
Address reprint requests to Dr. Christian Dualé, MD, PhD, Centre de Pharmacologie Clinique, Hôpital Gabriel Montpied, CHU de Clermont-Ferrand, Rue Montalembert, BP69, 63003 Clermont-Ferrand Cedex 1, France. E-mail: cduale@chu-clermontferrand.fr
1526-5900/$36.00
© 2015 by the American Pain Society
http://dx.doi.org/10.1016/j.jpain.2015.08.001

Postsurgical persistent pain (PSPP) is a recognized issue that deserves attention.[17,21] Cesarean delivery is one of the various surgeries that may be responsible for PSPP,[23,32] and the frequency of this technique is increasing worldwide.[11,43] In addition, the role of preoperative psychological factors in the development of PSPP, such as depression, psychological vulnerability, stress,[19] anxiety, and pain catastrophizing,[45] has been highlighted. Anxiety and catastrophizing have recently been shown to favor PSPP regardless of the surgical model.[28] Other more specific predictors of the preoperative context, such as emotional illness, representation of the condition leading to surgery,[39] fear of surgery,[36] physical condition,[37] or recent capacity overload,[1] have also been reported. As the effects of psychological factors on PSPP are likely to be influenced by the surgical context, it seemed interesting to compare the effects of psychological risk factors on hysterectomy and on cesarean delivery, two surgical models that share some technical aspects (transverse low abdominal and uterine incision) but differ in many other aspects. Cesarean delivery, although a stressful event, is performed on younger women anticipating a happy event and involves a specific hormonal status with high levels of circulating gonadic steroids. On the other hand, hysterectomy is often performed on patients reporting preoperative pain,[6,18,46] generally due to a tumor that is to be removed, whereas a cesarean procedure targets the safety of the child or the mother. Psychological risk factors of PSPP have been studied previously in hysterectomy for benign disorders,[39] but only acute pain after cesarean delivery has been investigated with reported evidence of a role of preoperative anxiety and anticipated pain.[35] Data were available for analysis from a wide prospective cohort that estimated the risk of occurrence of neuropathic PSPP (nPSPP) within 6 months after surgery.[10] In this study, which pooled nine different surgeries, the occurrence of nPSPP was favored by anxiety, low preoperative quality of life, and catastrophizing, but additional information was available about the cesarean subcohort. In particular, the psychosocial aspects of pregnancy were addressed using a preoperative questionnaire. Therefore, our aim was to assess the respective roles of various psychosocial factors in the development of PSPP after cesarean delivery, adjusted for other known medical risk factors, with a methodology as close as possible to that conducted by Pinto et al[39] on hysterectomy. The analyses also focused on the risk of occurrence of nPSPP, given that reporting of a neuropathic mechanism for PSPP is a risk factor for pain chronicization.[2]

Methods

The methods are described in detail in the report of the main multicenter French study,[10] which was undertaken after approval by the appropriate research ethics committee (CCPPRB d'Auvergne and CPP Sud-Est VI for amendments). The cesarean study was coordinated by a referent anesthetist at each center and was conducted by the anesthesiology team. The study population consisted of all patients over 18 years of age scheduled for cesarean delivery in a recruitment center, following written informed consent. The exclusion criteria were expected difficulties with comprehension or completion of the questionnaires; patients who would be unreachable in 6 months' time; cesarean delivery in an emergency or during labor. Parturients with previous experience of cesarean delivery could be included. Consecutive recruitment of patients was required. The inclusion visit was undertaken by the anesthetist the day before scheduled surgery. The patient was first asked to complete a questionnaire about her history of previous painful events (before and during this pregnancy), pregnancies (miscarriages and childbirths), and cesarean deliveries, as well as if the current pregnancy was desired, and if pain was expected during the postcesarean period. This questionnaire, which was specific to the cesarean subcohort, is presented in Appendix 1. In addition, the patient had to complete standard questionnaires: (i) the Medical Outcomes Study (MOS) 36-item Short Form (SF-36) to assess health-related quality of life,[24,33] (ii) the Pain Catastrophizing Scale,[44] and (iii) the Hospital Anxiety and Depression Scale (HADS).[51]

Demographic data and data about potential symptoms of peripheral neuropathy and possible risk factors for peripheral neuropathy were collected by the physician. All the questionnaires are presented in Appendix 1. After surgery, on discharge from the surgical ward, the physician completed data about the intraoperative anesthetic used, the postoperative analgesia given, and the occurrence of early complications. At M3 and M6, a questionnaire was mailed to the patient, in which she was asked if she experienced pain in the operated area (study definition of PSPP). If PSPP was present, additional information was asked about the intensity of this pain over the last 48 hours, with a drawn visual analog scale. Other questions related to the time course since surgery and the clinical features of the pain. Some of these questions were derived from the Douleur Neuropathique 4 (DN4) questionnaire, a screening tool validated to assess the neuropathic aspect of PSPP, and included within the study's questionnaire.[4] nPSPP was defined as PSPP with at least four positive items on the DN4. If documents were not completed and returned, the patient was contacted by telephone. Throughout the follow-up period, the patient was able to consult a referent practitioner for analgesia if required or could be referred on request to the closest specialist pain center.

Three dependent outcomes were considered separately, each in samples with a full dataset. The first outcome was the presence of reported PSPP at M3, whatever the mechanism (neuropathic or not). The initial aim was to study the intensity of PSPP at this time point, but the distribution of the data (too many null values and highly skewed positive values) did not allow for relevant analysis. This analysis was similar to that conducted by Pinto et al[39] and provided information about the role of non-neuropathic cases. The second outcome was the presence of reported PSPP at the sixth month after surgery, considering that the features of PSPP could have changed with time. The third outcome was the risk of

Download English Version:

https://daneshyari.com/en/article/2733562

Download Persian Version:

https://daneshyari.com/article/2733562

Daneshyari.com