High preoperative pain and symptom profile to predict postoperative pain in children post spine fusion surgery

NEWS

Pain Management

According to a recent prospective study by Voepel-Lewis T et al., high preoperative pain and symptom profile can predict worse pain outcomes in children after spine fusion surgery. Preoperative pain predicts persistent pain after spine fusion, yet little is known regarding the nature of that pain, related signs and how these signs are related to outcomes. The study was conducted to estimate the association between high symptom profiles and postoperative outcomes. In this study, children's baseline pain and symptom profiles were analyzed.

The study involved 70 children (aged 10–17 years) who had come for correction of idiopathic scoliosis. During their preoperative visit, they completed pain and symptom surveys (i.e. pain intensity [0–10 numeric rating scores], a pediatric version of the 2011 fibromyalgia survey criteria [including pain locations and symptom severity scale], neuropathic pain symptoms [pain DETECT], and Patient-Reported Outcome Measurement System measures of fatigue, depression, function, pain interference, and pain catastrophizing). Pain intensity and total analgesic use were recorded daily postoperatively and for two weeks after the discharge.

A two-step cluster analysis was done to find the difference between high and low pain and symptom profile at baseline. A multivariate main effects regression model was used to find out the link between pain profile and post-hospital discharge pain and analgesic outcomes. This cluster analysis helped well to differentiate between 2 groups of children based on the reported characterized baseline symptom. It was estimated that about 30% of the patients (95% confidence interval [CI], 20.2%–41.8%) possessed high symptom profile with higher depression, fatigue, pain interference, a pediatric version of the fibromyalgia survey criteria symptoms, neuropathic pain and catastrophizing. Girls were found more clustered in the high symptom profile than boys (odds ratio [OR], 5.76 [95% CI, 1.20–27.58]; p=0.022) as were those with preoperative pain lasting >3 months (OR, 3.42 [95% CI, 1.21–9.70]; p=0.018). Adjusting for sex, age, and total in-hospital opioid consumption, high cluster membership was independently associated with higher self-reported pain after discharge (mean difference +1.13 point [97.5% CI, 0.09–2.17]; P = .015). High symptom cluster group was more to report ongoing opioid use at two weeks comparative to low symptom group. After six months, it came out that high symptom cluster membership was associated with higher pain intensity, higher pain interference and ongoing analgesic use ($p \leq 0.018$).

Overall, it was concluded that in 30% of children with idiopathic scoliosis, preoperatively a behavioral pain vulnerable profile was present. It was found to be individually linked with lower and possibly long-lasting pain results after spine fusion in this setting. This high symptom profile is similar to that described in children and adults with chronic and centralized pain disorders and was more prevalent in girls and those with long-standing pain. However, further study is needed to elucidate the potential mechanisms behind our observations.

Source: Anesthesia & Analgesia

Link to the source: http://journals.lww.com/anesthesia-analgesia/Abstract/publishahead/A_High_Preoperative_Pain_and_Symptom_Profile.97615.aspx

The original title of the article: A High Preoperative Pain and Symptom Profile Predicts Worse Pain Outcomes for Children After Spine Fusion Surgery

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