26459 - LOCKED OUT AND STILL KNOCKING: PREDICTORS OF EXCESSIVE PCA USE.

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Introduction: Although intravenous patient-controlled analgesia (PCA) is an effective modality for managing acute postoperative pain, opioid requirements and total PCA requests vary widely. Sources of this variability are not fully understood. Previous studies have shown that anxiety may be predictive of increased pain and morphine consumption after surgery, but no study has specifically examined predictors of excessive PCA use or requests made during the lock-out period.

Aim: This study used a path analysis model to explain the degree to which intrusive thoughts and avoidant behaviors about an imminent surgery predicted lock-out period PCA requests during 48-hours of postoperative recovery.

Methods: Approximately 1 week before abdominal gynecological surgery by laparotomy, 117 patients completed the Impact of Events Scale (IES) for intrusive thoughts and avoidant behaviors. Anxiety and negative affect were assessed at 24 and 48 hours after surgery using the Mood Questionnaire and postoperative pain (VAS) was assessed at 3, 6, 12, 24 and 48 hours. Total morphine consumption (mg) and number of requests made during lock-out were downloaded directly from PCA pump records.

Path Analysis: Like the regression coefficient, a path coefficient (b) demonstrates the unique predictive relationship between a pair of variables with the effects of the remaining variables held constant.

Results: The path model demonstrated that VAS pain ratings did not significantly predict requests during the lock-out period, providing evidence that lock-out requests are not associated with untreated pain. Morphine consumption did predict lock-out requests ($b = .56, p < 0.001$) but this was not unexpected since patients making requests for morphine during lock-out also tended to consume more morphine. Consistent with previous findings, postsurgical anxiety predicted increased pain ($b = .22, p < 0.05$). Finally, IES scores assessed one week prior to surgery significantly predicted the total number of lock-out requests ($b = .23, p < 0.01$). The path model indicated that excessive requests for PCA-delivered morphine during 48 hours of postsurgical recovery were significantly predicted by the level of self-reported intrusive thoughts and avoidant behaviors recorded in the week prior to surgery ($R^2 = .44$), even after controlling for negative affect, anxiety, morphine consumption and VAS pain scores.

Discussion: Excessive requests for postoperative PCA morphine during lock-out periods appear to reflect, in part, poor preoperative adaptation to surgery involving intrusive thoughts and avoidant behaviors. Since pain ratings did not significantly predict requests during the lock-out period, a proportion of the total PCA-delivered morphine may be unnecessary (i.e., not pain-related) and some patients may be self-administering morphine for reasons other than pain. Implications for presurgery interventions are discussed.