Gastrointestinal morbidity after lumbar spondylodesis surgery

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Objective:
Thoraco-lumbar fusion surgery is a frequent procedure used for patients with spinal instability due to trauma or degenerative disease. In the perioperative phase, many patients experience vomiting, bowel irritation, constipation, or may even show symptoms of adynamic ileus possibly due to immobilization and high doses of opioid analgesics and narcotics administered during surgery.

Methods:
Patient data was retrospectively collected from all patients undergoing lumbar fusion surgery for degenerative disc disease with instability in 2012. Recorded parameters were age, gender, BMI, perioperative use and dosage of opioids/laxatives, anesthesia-related factors, length and estimated blood loss (EBL) of surgery, and postoperative constipation (= no bowel movement on postoperative days 0-2). Study groups were built according to presence/absence of postoperative constipation.

Results:
Ninety-nine patients (36 males, 60 females) with a mean age of 57.1±17.3 years were analyzed, of which 44 patients with similar age, gender, BMI and ASA-grades showed constipation (44.4%). Occurrence of constipation was associated with longer mean operation times (247±62 vs. 214±71 min; p=0.012), higher EBL (545±316 vs. 375±332 ml; p<0.001), and higher propofol dosage (557±822 vs. 184±403 mg; p=0.049), while the amount of opioids administered during surgery was similar (339±196 vs. 285±144 mg; p=0.286). Postoperative vomiting occurred in 9 patients with and 4 patients without constipation (p=0.073). Six patients with constipation and 4 patients without used a patient-controlled analgesia (PCA) postoperatively (p=0.332). Patients with constipation required higher mean opioid dosages in the postoperative days 0-2 (48.5±93.2 vs. 36.1±77.7; p=0.019). Seven/21/35 and 10/31/40 patients with and without constipation used laxatives on postoperative days 0/1/2 (p=0.907). One patient with constipation developed a sonographically confirmed paralytic ileus. Patients with constipation showed a tendency towards longer postoperative hospitalization (6.7 vs. 7.6 days, p=0.136).
Conclusion:
The incidence of constipation is high after thoraco-lumbar fusion surgery and was associated with longer surgery time, higher blood loss, and higher propofol and opioid doses in our analysis.

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