

PREDICTORS OF URINARY RETENTION IN PATIENTS UNDERGOING OPEN RENAL SURGERY WITH THORACIC EPIDURALLY ANALGESIA: A POOLED ANALYSIS

Hypothesis / aims of study

Thoracic epidural analgesia (TEA) has been shown to inhibit detrusor activity in patients undergoing open renal surgery, resulting in relevant postvoid residuals independently of the epidural drug mixture used. The aim of this study was to determine the risk factors for postoperative urinary retention.

Study design, materials and methods

The present study is a pooled analysis of two open observational studies and a double-blind randomized trial including 66 patients. All included patients had no preoperative lower urinary tract symptoms (IPSS \leq 7 and postvoid residual (PVR) <100ml). All patients underwent urodynamic investigations before TEA and during TEA 2-3 days after open kidney surgery by lumbotomy. Multiple logistic regressions analysis was used to determine predictors for urinary retention.

Results

Postoperative PVR \geq 100ml during TEA was present in 48/66 patients (73%). Preoperative predictors for PVR \geq 100ml postoperatively during TEA were gender (female vs male) (OR: 0.284 [95% CI 0.81-0.99]; $P=0.049$) and preoperative PVR (OR: 0.972 [0.85-0.99]; $P=0.027$). Postoperative urinary retention (flow rate of 0ml/min) during TEA was present in 21/66 patients (32%). Predictors for postoperative urinary retention during TEA were PdetQmax before TEA (OR: 0.962 [0.93-1.00]; $P=0.049$) and Qmax (OR: 1.101 [0.99-1.22]; $P=0.070$). Postoperative maximum flow rate (Qmax) lower than 4ml/min was present in 32/66 patients (49%). The infusion rate of epidural mixture administered predicted a postoperative Qmax <4ml/min (rate \geq 10ml/h vs \leq 5ml/h: OR 14.672 [95% CI 1.97-109.2]; $P=0.009$).

Interpretation of results

TEA results in clinically relevant voiding dysfunction including a relevant incidence of urinary retention after open renal surgery. Preoperative urodynamic parameters may predict postoperative voiding dysfunction.

Concluding message

TEA has an impact on voiding function. Preoperative voiding symptoms may predict clinically significant postoperative PVR's and the necessity for catheterization during TEA.

Disclosures

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