Objectives: There is no consensus about the optimal intraperitoneal pressure during gynecologic laparoscopy. Recent general surgery literature found benefits when using low peritoneal pressures but the safety of doing abdominal surgery with low peritoneal pressures needs to be assessed. This systematic review compares low to standard pneumoperitoneum during gynecologic laparoscopy.

Study Methods: We searched Medline, Embase, the Cochrane Library, up to May 2015, for randomized controlled trials comparing intraperitoneal pressures during gynecologic laparoscopy. Two authors selected and reviewed references, extracted data and assessed quality from included trials. Risk ratios, mean differences and standard mean differences were computed using RevMan5.

Results: Of 2251 studies identified by our search strategy, 3 were included in the systematic review for a total of 238 patients. We found a modest but statistically significant diminution in post-operative pain of 0.38 standardized unit based on a 10-point scale (95% CI: -0.67 to -0.08) during the immediate post-operative period when using low intraperitoneal pressure of 8 mm Hg compared to pressures ≥12 mm Hg and a standard mean difference of -0.50 (95% CI: -0.80 to -0.21) 24 hours after the surgery. Lower pressures were associated with worse visualisation of the surgical field. We found no difference between groups over blood loss, duration of surgery, hospital length of stay, or the need for increased pressure.

Conclusions: Despite the modest improvement of pain scores using low-pressure pneumoperitoneum, low intraperitoneal pressures during gynecologic laparoscopy cannot be recommended on the behalf of this review. The safety of this intervention as well as cost-effectiveness considerations need to be further studied.

Mots clefs : Laparoscopy, pressure, complications, pain

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