Minilaparoscopy and laparoendoscopic single-site surgery: mini- and single-scar in urology.

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Abstract

PURPOSE: To review the development of laparoscopic single-site surgery (LESS) and minilaparoscopy (ML), with particular attention to the urological field, focusing on nomenclature, history and outcomes.

METHODS: A literature search was conducted on laparoendoscopic single-site surgery, minilaparoscopy, needlescopy and microlaparoscopy. The most relevant papers were selected over the last 30 years.

RESULTS: 830 manuscripts were found about LESS, 251 in urology, two CRTs and nine match-case controls. 258 papers were about ML and 55 in urology. ML is the main topic (169 papers), followed by needlescopy (58) and microlaparoscopy (32). The most significant articles are four non-randomized match-case control studies.

CONCLUSIONS: Over the last few years, many urological laparoscopic operations have been successfully performed by LESS. However, the actual role of LESS remains to be determined with controversial data about postoperative pain control and almost no results on cosmesis. We are facing second-generation ML with superior performance granted by new endoscopes and most effective instruments. ML has demonstrated in almost all urologic indications to be feasible, safe and able to improve cosmetic and postoperative pain control. Anyway, CRTs are still lacking and only studies from other discipline can corroborate this trend.

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