Minilaparoscopy, needlescopy and microlaparoscopy: decreasing invasiveness, maintaining the standard laparoscopic approach.

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Abstract

OBJECTIVES: To review the development of miniaturized laparoscopic instruments with particular attention to the urological field and focusing on nomenclature, history and outcomes.

METHODS: A comprehensive literature search was conducted in order to find articles related to Minilaparoscopy, Needlescopy, Microlaparoscopy. The most relevant papers over the last 30 years were selected in base to the experience from the panel of experts, journal, authorship and/or content.

RESULTS: 258 manuscripts were found, 14 of them review, 126 about general surgery, 86 gynecology, 55 urology, 31 thoracic surgery. Minilaparoscopy is the main topic in 169 papers, Needlescopy in 58 and Microlaparoscopy in 32. No clinical randomized trials are available in urology. Most significant articles are 4 prospective non-randomized match-case control.

CONCLUSIONS: We are facing a Minilaparoscopy of second-generation with superior performance granted by new endoscopes and most effective instruments. Up to date, Minilaparoscopy has demonstrated in almost all urologic indication to be feasible, safe and able to improve cosmetic and postoperative pain control. Anyway, clinical randomized trials are still lacking and only studies from other discipline can corroborate this trend.

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