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UPPER TRACT SURGERY
EDITORIAL

Re: Laparoscopic renal surgery is here to stay. By Angus Chin On Luk, Rajadoss MuthuKrishna Pandian and Rakesh Heer. Department of Urology, Freeman Hospital, High Heaton, Newcastle upon Tyne, UK

During recent decades minimally invasive surgical methods, such as laparoscopic surgery and more recently robotic-assisted laparoscopic surgery, have became the standard in renal surgery. The main achievement of this article is that it performs a meta-analysis, comparing the results of open, laparoscopic and robot-assisted operative approaches in renal surgery.

The authors compare clinical outcomes in open, laparoscopic and robot-assisted renal surgery for mainstream procedures such as radical nephrectomy, partial nephrectomy, donor nephrectomy, and pyeloplasty. The meta-analysis includes a significant time-period of >20 years, more importantly these are the years in which open renal surgery has been subjected to a significant challenge by its two minimally invasive rivals, namely: laparoscopic renal surgery, which has in the meantime reached maturity and become the method of choice; and robotic-assisted surgery, which has gained significant momentum in the last decade.

The results from the data analysis are presented nicely and logically according to the surgical procedure: In radical nephrectomy, the main advantage of a laparoscopic approach is the much shorter recovery time with comparable oncological results. Robot-assisted radical nephrectomy, to date, fails to offer a clear advantage compared to a laparoscopic approach.

Laparoscopic nephrectomy has become the method of choice for donor nephrectomy, once again because of its minimally invasive nature, allowing for rapid recovery without jeopardising graft quality.

For partial nephrectomy, the laparoscopic approach, although still a challenging procedure shows comparable functional and oncological results to open partial nephrectomy. The robotic-assisted partial nephrectomy shows some significant intraoperative advantages regarding ease of renal suturing and the learning curve as a whole. However, more medium- and long-term results are needed to fully establish its place for this indication.

When discussing pyeloplasty, all three approaches show similar efficacy and excellent functional results. The main advantages of minimally invasive methods are the shorter hospitalisation and convalescence time. Robot-assisted pyeloplasty still has to justify its increased cost, as to date it has failed to show a statistically significant advantage compared to laparoscopic pyeloplasty.

Unfortunately, evidence with good methodological quality in comparing clinical outcomes (in particular long-term) of renal surgery is scarce. The authors do acknowledge this fact and interpret their finding rightly in this light.

At the present time, laparoscopic renal surgery is established as the method of choice, being superior to an open approach through a faster recovery and being less costly than robot-assisted surgery. To date, the latter fails to show significant advantages in renal surgery compared to laparoscopy, with the potential exception of partial nephrectomy.

Conflict of interest

None for both.

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