

Laparoscopic Nephrectomy through a Pfannenstiel Incision

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ABSTRACT

Purpose: Laparoscopic urologic surgery is generally performed using three to six ports by transperitoneal or retroperitoneal access. Recent developments regarding laparoscopic surgery have been directed toward reducing the size or number of ports to achieve the goal of minimal invasive surgery, by mini-laparoscopy, natural orifices access and transumbilical approach. This video reports three cases of laparoscopic nephrectomies performed through a Pfannenstiel incision using conventional laparoscopic trocars and instruments

Materials and Methods: Since March 2009, laparoscopic nephrectomy through a Pfannenstiel incision has been proposed for selected patients in our service. Patient selection was determined by any situation, pathologic or not, for which laparoscopy was deemed appropriate as the standard of care in our practice. The Veress needle was placed through the umbilicus which allowed the carbon dioxide inflow. One 5mm (or 10mm) trocar was placed at the umbilicus for the laparoscope, to guide the placement of three trocars over the Pfannenstiel incision. Additional trocars were placed as follows: a 10mm in the midline, a 10mm ipsilateral to the kidney to be removed (two centimeters far from the middle one), and a 5mm contralateral to the kidney to be removed (two centimeters far from the middle one). The entire procedure was performed using conventional laparoscopic instruments. In the end of the surgery, trocars were removed and all three incisions were united into a single Pfannenstiel incision for the specimen retrieval.

Results: Three nephrectomies were performed following this technique: one atrophic kidney, one kidney donation and one renal cancer. Median operative time was 96 minutes (ranging from 80 to 120 minutes) and median intraoperative blood loss was 116 cc (ranging from 50 to 150cc). No intraoperative complications occurred and no patients needed blood transfusion. Median length of hospital stay was 32 hours (ranging from 24 to 48 hours).

Conclusion: The use of the Pfannenstiel incision for laparoscopic nephrectomy seems to be feasible even using conventional laparoscopic instruments, and can be considered a potential alternative for traditional laparoscopic nephrectomy.

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EDITORIAL COMMENT

In this surgical video by Branco et al., the authors demonstrate how placement of laparoscopic surgical trocars along incision sites which can be connected thereafter to a Pfannenstiel incision for specimen extirpation is a feasible alternative to conventional laparoscopic trocar placements at time of nephrectomy. This video provides a nice illustration of how this port placement strategy can be used by most practicing urologists. The video provides a nice overview of 3 separate surgical cases (i.e. simple, radical, and donor nephrectomy) in which this approach was utilized. The specialty of urology is in evolution as it has been one of the first to embrace the significant improvements in surgical instrumentation, ergonomics, and optics. With the integration of robotics and now single port access surgery to our

surgical armamentarium, we are now faced with an equally challenging clinical question which is how far can we push the envelope without compromising safety or patient outcome? Another pertinent question is how can urologists keep abreast and competent with these evolving surgical technologies? I don't think there is a simple answer to that question other than stating that clinicians must perform procedures that they are comfortable with and that fall within our surgical specialties realm of the standard of care at this point in time. Evolving technologies have and will continue to shape our surgical specialty for years to come however they must be compared in a rigorous evidence based approach to the surgical techniques which have up until now weathered the test of time.

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