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Robotic-assisted partial nephrectomy: Has it come of age?

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Abstract

Surgical resection is the gold standard for the treatment of renal cell carcinoma, and partial nephrectomy (PN) is the treatment of choice for tumors smaller than 4 cm in size. A laparoscopic PN is a viable alternative to a traditional open PN, demonstrating good oncologic and functional outcomes. A laparoscopic PN is a challenging procedure, particularly performing intracorporeal suturing under the time constraints of warm ischemia. The introduction of the da Vinci surgical system (Intuitive Surgical Inc., Sunnyvale, CA) with wristed instruments and magnified, 3-dimensional vision may facilitate the technical challenges of a minimally invasive PN. The technique of robotic partial nephrectomy (RPN) is still evolving and a number of institutions have recently reported their results. In this article, we present a review of the literature and our technique for robotic PN using a transperitoneal approach.

Keywords: Kidney cancer, partial nephrectomy, robotics