

## ENDOUROLOGY & LAPAROSCOPY

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### **Laparoscopy for Renal Cell Carcinoma: Diffusion Versus Regionalization?**

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**Purpose:** Recognizing the emergence of laparoscopy as a standard of care for surgical treatment in many patients with organ confined renal cell carcinoma, we explored the diffusion of this technology by examining temporal trends in the nationwide use of laparoscopic total and partial nephrectomy in patients with renal cell carcinoma.

**Materials and Methods:** Data from the Healthcare Cost and Utilization Project Nationwide Inpatient Sample were abstracted for 1991 through 2003. International Classification of Diseases-Ninth Revision, Clinical Modification 9 codes were used to identify patients undergoing open and laparoscopic total and partial nephrectomy for renal cell carcinoma. Using hospital sampling weights we calculated annual incidence rates for open and laparoscopic nephrectomy, thereby estimating the diffusion of laparoscopy. Bivariate and multivariate analyses were used to identify patient and hospital characteristics associated with the more frequent use of laparoscopic techniques.

**Results:** Data on 63,812 patients were abstracted from the Nationwide Inpatient Sample, yielding a weighted national estimate of 323,979 who underwent laparoscopic (4.9%) or open (95.1%) nephrectomy (total or partial) for renal cell carcinoma between 1991 and 2003. Although it is still infrequent, the use of laparoscopy has increased steadily since 1998 with a utilization peak in 2003 of 1.7 laparoscopic nephrectomies per 100,000 American population, representing 16% of all total and partial nephrectomies for renal cell carcinoma in 2003. Treatment year, overall hospital nephrectomy volume and teaching hospital status were the most robust determinants of increased laparoscopic use (each  $p < 0.001$ ).

**Conclusions:** Although its use has increased progressively in the last decade, the dissemination of laparoscopy for renal cell carcinoma has been generally slow and limited in scope. The next step in this body of work is to identify specific technical, educational and policy interventions that will influence the diffusion of this alternative standard of care.

### **Editorial Comment**

The surgical approach for the treatment of renal cell carcinoma has evolved since Clayman and colleagues performed the first Laparoscopic Radical Nephrectomy in 1990. Moreover, the innovative and scientific nephron-sparing concept pioneered and popularized by Novick culminated with the development of the minimally invasive laparoscopic partial nephrectomy first performed by Winfield et al. This manuscript reveals a surprising reality of our practice trends in the USA, when surgical management is the option. Although the laparoscopic approach maybe considered the gold standard for the surgical treatment of Renal cell carcinoma, majority of cases are performed using the open technique. Finally, the authors concluded that the current trend is a progressive increase in the dissemination of the laparoscopic technique but it has been slow and limited in scope and studies are necessary to optimally identify the limiting factors and better propagate this surgical technique.

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### **Long-term Durability of Laparoscopic Decortication of Symptomatic Renal Cysts**

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**Objectives:** To assess the long-term results of patient symptoms and radiologic outcomes of laparoscopic renal cyst decortication in the treatment of symptomatic simple renal cysts. Renal cysts are common in the adult population. Symptomatic renal cysts have traditionally been treated by percutaneous aspiration with or without injection of sclerosant agents; however, this has a high rate of recurrence.

**Methods:** From April 1994 through July 2005, 45 patients underwent laparoscopic decortication of symptomatic simple renal cysts with renal cyst wall excision and fulguration of the epithelial lining. Complex renal cysts were excluded. Of the 45 patients, 24 (53.3%) had undergone previous cyst aspiration with injection of sclerosant material for intended ablation. The Wong-Baker pain scale was used to assess the preoperative and postoperative pain scores. Radiologic success was indicated as no recurrence on the most recent computed tomography scan.

**Results:** Of the 45 procedures, 44 were completed laparoscopically. One patient (1.8%) underwent open conversion because of excessive bleeding. The mean operative time was 89 minutes (range 48 to 170). Symptomatic success was achieved in 91.1% of patients, with a median follow-up of 52 months (range 3 to 132), and radiographic success was achieved in 95.5% of patients, with a median follow-up of 39 months (range 3 to 96).

**Conclusions:** Long-term follow-up has confirmed that laparoscopic cyst decortication is an effective and durable treatment option for symptomatic simple renal cysts during long-term follow-up. The greater and durable success rates of this minimally invasive technique may favor this treatment option over other treatment modalities.

### **Editorial Comment**

The treatment of symptomatic renal cysts has evolved with the advent of laparoscopic surgery. The authors demonstrated that the minimally invasive surgical technique may offer a durable success rates with minimal morbidity. Although the Percutaneous approach of cyst aspiration may offer a different less invasive alternative, it is well known that the recurrence rates are higher, independent of the use of sclerosing agents or not. The Laparoscopic surgery combines the advantages of a minimally invasive procedure with the effectiveness of cyst marsupialization achieved by open surgery, as well as, the capability of ablating the epithelial surface of the cyst with argon beam coagulators or even with monopolar cautery due to the better visualization secondary to the magnification achieved by the laparoscope.

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