Comparison of Laparoscopic and Open Adrenalectomy — A Singapore Experience


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The use of the laparoscopic approach for adrenalectomy has developed remarkably and expanded significantly over the last decade since its initial description in 1992. Through late 1997, there have been nearly 600 cases of laparoscopic adrenalectomy reported in the world literature, documenting its safety and efficacy. When compared with open surgery, this approach represents a significant benefit in terms of patient recovery, shorter hospital stay and cost-effectiveness. Laparoscopic adrenalectomy has now been recognized as the gold standard for patients requiring adrenalectomy for benign functioning and nonfunctioning adrenal diseases.

No randomized, prospective, controlled trials have been conducted that compare laparoscopic adrenalectomy to the open procedure. Because studies have already demonstrated the safety and efficacy of the laparoscopic approach, it is unlikely that such a trial will ever occur — due to the low numbers of adrenalectomies performed worldwide, there would be difficulty in accrual of patients for such a study. Retrospective case-control studies have been employed to compare laparoscopic with open approaches. Similar to other reports, this retrospective study confirmed the advantages of laparoscopic versus open adrenalectomy for the treatment of benign adrenal tumours less than 7 cm in size.

Although successful laparoscopic adrenalectomies have been performed on malignant or adrenal lesions as large as 12 cm, this technique is usually reserved for benign tumours < 6-8 cm in size. Apart from technical considerations, the adoption of size as a selection criterion is based on the increased risk of malignancy of larger tumours, unless diagnosis of benign conditions, such as myelolipoma or adrenal hyperplasia, can be made preoperatively. In contrast to the present report, pheochromocytoma is not considered a contraindication to this approach. The higher complication rates reported are attributed to the technical difficulty in dealing with these larger-than-average size tumours, as well as their hormonal secretions. The laparoscopic approach can be adopted for selected patients based on the size of the tumour rather than the underlying pathology alone.

Interestingly, in the present study, six of the 58 adrenalectomies were performed through the retroperitoneal approach during their early experience. Although the safety and feasibility of the more technically demanding retroperitoneal approach has been documented, it has no clear advantage over the more commonly used transabdominal approach. Many authors advocate the transabdominal approach, as it provides a wider operative field, thus allowing appropriate movement of the instruments as well as an easy dissection and control of blood vessels.

As in the present study, laparoscopic adrenalectomy has become the procedure of choice for the majority of patients requiring adrenalectomy for benign functioning and nonfunctioning tumours, and the transabdominal approach has been the technique of choice for the majority of surgeons performing minimally-invasive adrenalectomy.

References

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