

Laparoscopic Nephrectomy for T2b Renal Lesions

D Spernat, P Brenner, T Hossack

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Abstract

Patients with small renal lesions are suitable for laparoscopic nephrectomy. However, patients with large tumours especially those greater than 10 cm, are often deemed unsuitable for a laparoscopic approach. For a right sided tumour greater than 10cm that is confined to the kidney, our preference is for a thoraco-abdominal incision. We present a case report of a man who successfully underwent laparoscopic nephrectomy for a 115x105x85mm right mid pole renal tumour who had previously undergone a bilateral pleurodesis; thus making a thoraco-abdominal incision inappropriate. This report demonstrates the safety of a laparoscopic approach and challenges the tenant that size is a contra-indication to laparoscopic nephrectomy.

SYNOPSIS

With advances in laparoscopic technique, size of renal tumour is no longer a contra-indication to laparoscopic approach. However, the tumour must be confined to the kidney and the renal vein not involved.

INTRODUCTION

Laparoscopic nephrectomy is generally reserved for T1a or T1b lesions. In some centres T2a lesions, that is, less than 10 cm and confined to the kidney will be managed laparoscopically[1]. However, for lesions larger than this an open approach is often used. A thoraco-abdominal incision provides the greatest access for large upper pole right renal tumours. Other incisions including a mid-line laparotomy or a chevron incision can also be used but these do not offer as wide exposure.

At our tertiary referral centre a thoraco-abdominal incision is preferred for right sided T2b lesions. This report discusses the successful treatment of a man with a T2b (115x105x85mm) right upper pole renal tumour with previous bilateral pleurodesis for pneumothoraces.

CASE REPORT

We were referred a patient with Birt-Hogg-Dube syndrome who had an incidentally discovered 115x105x85mm right upper pole renal mass. This patient had previously undergone a bilateral pleurodesis for pneumothoraces. Thus a thoraco-abdominal incision could not be performed.

Birt-Hogg-Dube syndrome is an autosomal recessive

condition due to a defect on chromosome 17. The condition causes follicular adenomas, pulmonary cysts, pneumothoraces, and renal tumours. The renal tumours include oncocytomas, chromophobe renal cell cancers (RCCs), clear cell RCCs, and papillary cell RCCs.

On the morning of the procedure the patient underwent angio-embolisation of the three renal arteries. The patient was then transferred directly to the operating theatre. After induction of general anaesthesia, and insertion of an indwelling catheter, the patient was placed right side up in the lateral position. A 5 port laparoscopic approach was undertaken. Four ports were used for operating and the fifth port as a liver retractor. The ascending colon was medialised, the peritoneal attachments between the kidney and liver incised and the duodenum Kocherized. The ureter was isolated and used as a landmark to find the renal hilum. The hilum was identified and each renal artery secured with hem-o-lok clips. Two renal veins were identified and a vascular stapler was used to divide the vessels. The kidney was then retrieved. The patient was monitored in ICU overnight and discharged to the general ward the following day. There were no peri-operative complications.

DISCUSSION

Thoraco-abdominal incision is the gold standard operative approach for large right sided renal tumours. This incision gives the widest access to the tumour and the great vessels. However, when it is not possible to perform a thoraco-abdominal incision then initial exploration and mobilisation laparoscopically is an appropriate option[1]. We feel that

laparoscopy provides similar exposure and visualisation as a midline laparotomy without the post operative morbidity.

Large tumours will still require a large incision to remove the specimen. However, with a laparoscopic approach, a Pfannenstiel incision can be made which has significantly less post operative pain and morbidity[2].

A limitation of this report is that it is a solitary case and there is no case control. However, there is no oncological difference between open and laparoscopic surgery in T1 and T2 tumours[3,4,6]. Further, this article demonstrates the advances in laparoscopy in recent years.

The dictum that large tumours should have an open approach is evolving. In centres with laparoscopic specialists it is reasonable to attempt laparoscopy for large tumours[5]. Should mobilisation not be possible then conversion to an open procedure is indicated. However, size is not an absolute indication for open surgery in the modern era.

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Author Information

D Spernat

St Vincent's Private Hospital

P Brenner

St Vincent's Private Hospital

T A Hossack

St Vincent's Private Hospital