

# Contralateral tumor seeding of renal cell carcinoma mimicking late metastasis of liver after laparoscopic nephrectomy: A case report with review of the literature

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**Summary** *Laparoscopic surgery has been increasingly used every day in the management of urologic malignancies. Even though it seems as a minimally invasive surgery, during these interventions tumor seeding, as seen in open surgery, confronts us as a rarely seen serious risk. Herein, we have reported a case who demonstrated peritoneal tumor implantation at 12 month postoperative follow up after laparoscopic radical nephrectomy (LRN) performed for Furhman grade 1 (T2N0M0) renal cell cancer.*

**KEY WORDS:** *Laparoscopic radical nephrectomy; Tumor seeding; Peritoneal implant; Renal cell cancer.*

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## INTRODUCTION

During removal of malignant tumours by means of open surgery or laparoscopic resection, direct inoculation of neoplastic cells can occur. This inoculation is generally seen along the port access route which is known as port-site metastasis (1). In laparoscopic surgeries applied for the management of urologic malignancies, peritoneal implants or port-site metastases have been rarely (0.09-0.03%) seen up to now (2). Although etiological factors of this phenomenon have not been completely understood, tumor aggressivity, laparoscopy-related factors, immune system of the patient and local characteristics of the surgical site have been implicated. Among all urologic malignancies, peritoneal tumor seeding and port-site metastasis are extremely rarely seen in renal cell cancer (RCC). Very scarce number of case reports have been reported in the literature (3). Herein, we presented a case who demonstrated peritoneal tumor implantation at postoperative 12 month follow up after laparoscopic radical nephrectomy (LRN) performed for Furhman grade 1 (T2N0M0) renal cell cancer (RCC).

## CASE REPORT

A 68-year-old male patient consulted to our outpatient clinic in December 2012 with complaints of dysuria and pollakiuria. His medical evaluation revealed a high serum PSA level (10.5 ng/ml) which necessitated prosta-

tic biopsy with the aid of transrectal ultrasound. Histopathological report indicated prostate cancer (PCa) with Gleason score 3+3 in 6 out of 12 core biopsy specimens. Magnetic resonance imaging (MRI) performed for tumor grading incidentally disclosed a mass lesion radiologically suggesting RCC located in the mid-portion of the left kidney with exophytic extension and measuring 45 mm in its largest diameter. With this indication, the patient underwent laparoscopic renal nephrectomy (LRN) in December 2012. His histopathological report indicated the lesion to be Furhman grade 1 (T2N0M0) RCC (Figure 1). Afterwards, we performed radical retropubic prostatectomy and lymph node dissection with the indication of PCa in March 2013 and penile prosthesis was implanted to treat his erectile dysfunction. Up to that time, laboratory and radiological controls did not reveal the presence of RCC and PCa recurrences or metastases.

Control MRI performed at 12 month follow up post-LRN, disclosed a perihepatic mass lesion with dimensions of 20x18x12 mm consistent with metastasis or tumor seeding located on the anterior segment of the right lobe of the liver (Figure 2). Then, the patient underwent laparotomy in February 2014 in the department of general surgery and the lesion visualized during MRI was revealed to be a peritoneal tumor implant. The implant was excised and consulted during the perioperative period to the department of histopathology for frozen section. Histopathological report indicated the lesion to be a RCC implant (Figure 3). The patient is still at post-LRN 24. months. All abdominal MRI, thoracic CT and bone scans could not reveal any evidence of clinically significant RCC and PCa recurrence or metastases.

## CONCLUSIONS

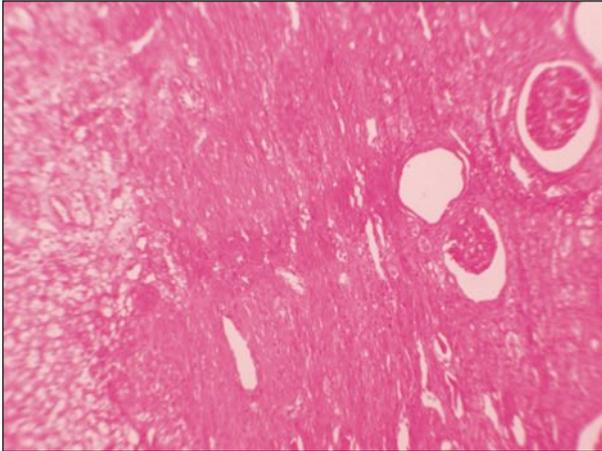
In conclusion, following oncologic laparoscopic interventions, not only local recurrence and distant metastases, but also peritoneal implantation should be also considered and atypical abdominal small lesions away from trocar access site should be also taken into consideration as for implantation metastases.

**Discussion and supplementary references are posted in Supplementary Materials on [www.aiua.it](http://www.aiua.it)**

No conflict of interest declared.

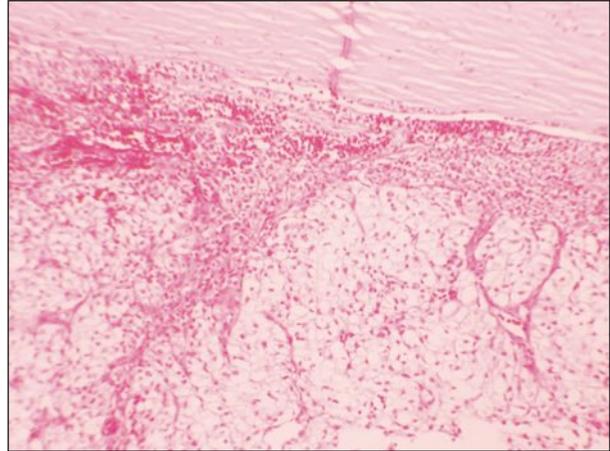
**Figure 1.**

Hematoxylin and eosin stain of the left kidney:  
Renal cell carcinoma (40X).



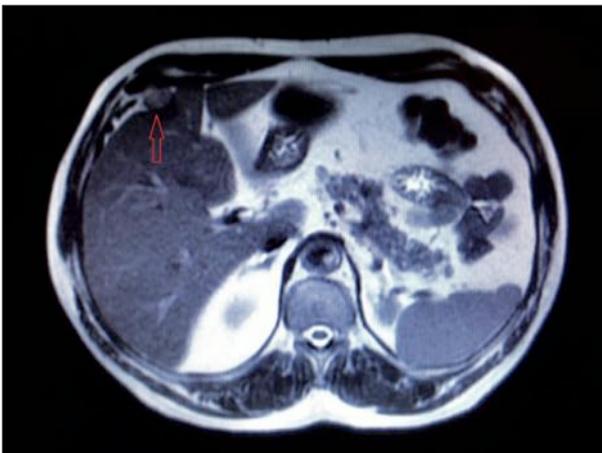
**Figure 3.**

Hematoxylin and eosin stain of the peritoneal renal cell carcinoma implant (100X).



**Figure 2.**

MR image: A perihepatic mass lesion measuring 20x18x12 mm located on the anterior segment of the right lobe of the liver.



## REFERENCES

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