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Surprising Renal Involvement as Tumor Recurrence of Esophageal Cancer: A Case Report

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Abstract

We present a rare case of an esophageal tumor recurrence in the kidney. In the literature only a few similar cases have been described.

Keywords: Tumor recurrence; Esophageal cancer; Kidney; Renal cell carcinoma; Metastatic

Introduction

Carcinoma of the esophagus affects more than 450000 people worldwide and the incidence is rapidly increasing [1]. It is one of the most deadly cancers worldwide, because of its extremely aggressive nature and poor survival risk [1].

In retrospective studies, smoking, hot tea drinking, red meat consumption, poor oral health, low intake of fresh fruit and vegetables, and low socioeconomic status have been associated with a higher risk of developing esophageal squamous cell carcinoma.

Barrett's esophagus is clearly recognized as a risk factor, and dysplasia remains the only factor useful for identifying patients with increased risk, for the development of esophageal adenocarcinoma in clinical practice [1].

Surgical resection remains the primary treatment modality for esophageal carcinoma. Only a small number of patients are considered for curative resection and long-term survival. Resection rates range from 19% to 64% and 5 years survival from 10% to 55% depending on the tumor stage [2].

A study in France showed a mean time (SD) to recurrence after operation of 17.8 months, with 45.7% of all recurrences developing within 12 months after the operation. This study also showed that tumor depth was the only predictive factor for recurrent disease. A pT3 tumor has the worst outcome, 63% of the patients with T3 carcinoma developed a recurrence after the operation [2].

In most cases, a direct infiltrative metastasis of esophageal cancer grows through the mediastinum, passing the trachea, into the heart or right bronchus. In haematogenic metastases, the tumor cells spread to the liver and the lungs first. Lymphatic spreading can lead to metastases in the upper abdomen, mediastinum or cervical vertebra [3].

We present a rare case of an esophageal tumor recurrence in the kidney. In the literature only a few similar cases have been described [4-7] in most cases the patient got treated with chemotherapy, with no success.

Case

A 65-year-old man with intermittent hematuria and back pain visited our urology department. The patient had a history of a pT3N0 squamous cell carcinoma of the esophagus two years ago, for which he was treated with neo-adjuvant radiotherapy, followed by a thoracic-laparoscopic esophageal resection. He had a history of smoking cigarettes.

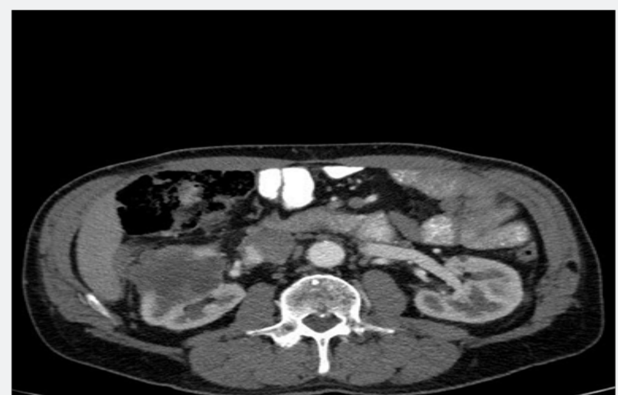

Figure 1: A transversal image of the abdomen, mass of 70mm in the upper pool of the right kidney.

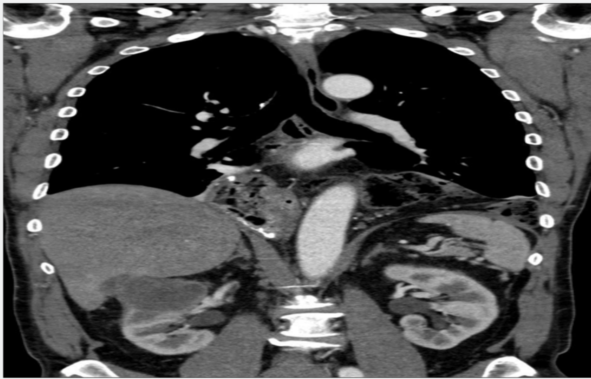

Figure 2: A coronal image of the abdomen, solid mass of the right kidney with involvement of Gerota's fascia and also very likely to grow in the liver.

Ultrasound revealed a solid mass, with a maximum diameter of 4.8cm in the right kidney with close relation to the liver. On Computed Tomography of the thorax and abdomen, a big mass of 7cm was seen in the upper pool of the right kidney. Furthermore, involvement of Gerota's fascia was seen and the liver was most likely also partially infiltrated by the tumor. No other abnormalities were seen in the thorax or abdomen (Figure 1 & 2).

The patient was discussed on the multidisciplinary oncology board and was concluded to undergo a radical nephrectomy as no other metastasis or abnormalities were diagnosed. He underwent a laparoscopic nephrectomy of his right kidney. During the surgery, the tumor appeared to show invasion in the liver. Inasmuch some paracaval suspicious glands (10) were present, it was decided to remove them by means of a paracaval lymph node dissection. The kidney was resected safely and sent to the pathologist. The pathological findings showed the presence of squamous cell carcinoma with a maximum diameter of 7cm and diffuse abnormal tissue of the liver, with squamous cells. Also one paracaval lymph node, of the ten who were removed, was a metastasis. Conclusion of the pathologist was a pTxN1M2 squamous cell carcinoma of the esophagus.

Further treatment was continued in another hospital with specialization in esophagus carcinomas. A CT-scan two months after the nephrectomy did not show any other metastases. Further follow-up is still following.

Discussion

We present a rare manifestation of a late tumor recurrence and metastasis in the right kidney, two years after treatment for a primary esophageal tumor.

The results of the French study suggest that patients at high risk of developing recurrence need to be identified in the preoperative staging process, since more than 50% of all recurrences occurred within 12 months after surgery, either local, regional, or distant sites [2].

Primary renal cell carcinoma

Renal cell carcinoma (RCC) had an incidence of 84.000 in the European Union in 2012 and a mortality rate of 35.000 [5]. The 5-year survival has doubled in the last 50 years, 34 percent in 1954 to 73 percent from 2005 to 2011 [8].

Most patients present themselves with complaints of hematuria, pain or a random finding of a mass in the kidney [9]. The diagnosis RCC is usually set by ultrasound, CT scan and possibly an MRI. Via a nephrectomy or partial nephrectomy, the final diagnosis for RCC is usually set.

Due to the high diagnostic accuracy of CT abdomen, a kidney biopsy is not recommended if the imaging shows suspicious solid renal abnormalities and the patient is eligible for a surgical resection [9].

The primary curative treatment in patients with RCC stages I, II and III, without metastases is a radical or partial nephrectomy, depending on the size and location of the tumor. There is no proven effect of adjuvant radiotherapy [9,10].

Metastases to the kidney

The most common primary tumors that metastasize to the kidney are melanomas and solid tumors, mainly lung and mammary carcinomas, but also gastrointestinal, pancreatic, intestinal and gynecological tumors [11,12].

Other treatment options?

Surgery followed by adjuvant chemotherapy is a common treatment approach for many solid tumors. Would the difference had been made if the patient had postoperative treatment with chemotherapy? Post esophagectomy chemotherapy had not been extensively studied. One randomized trial showed no benefit for surgery followed by chemotherapy [13-15]. The randomized shows there is no benefit in survival or recurrence of adjuvant chemotherapy following an esophagus resection in esophagus carcinoma [14].

Conclusion

A patient presented with a CT image of a solitary solid abnormality in the kidney. No other metastases were found in imaging, for this reason no preoperative biopsy was taken, and therefore a radical nephrectomy was decided. The pathology results showed a metastasis/recurrence of a previous esophagus carcinoma. Two months later, no new abnormalities were found on follow-up CT. Further follow-up is following.

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