

## Metastatic Esophageal Squamous Cell Carcinoma in the Kidney

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**Abstract**

Metastases from esophageal cancers represent only 4.8 per cent of secondary renal tumors. The kidney is known to be the 4th or 5th most common visceral metastasis site of esophageal carcinomas. More than 50% of renal metastases typically show bilateral involvement. Solitary, unilateral renal metastasis is extremely rare. Therefore, the diagnosis of renal metastases is very difficult. We report a case of solitary unilateral renal metastases in an esophageal squamous cell carcinoma in a 66 year old man's autopsy.

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### INTRODUCTION

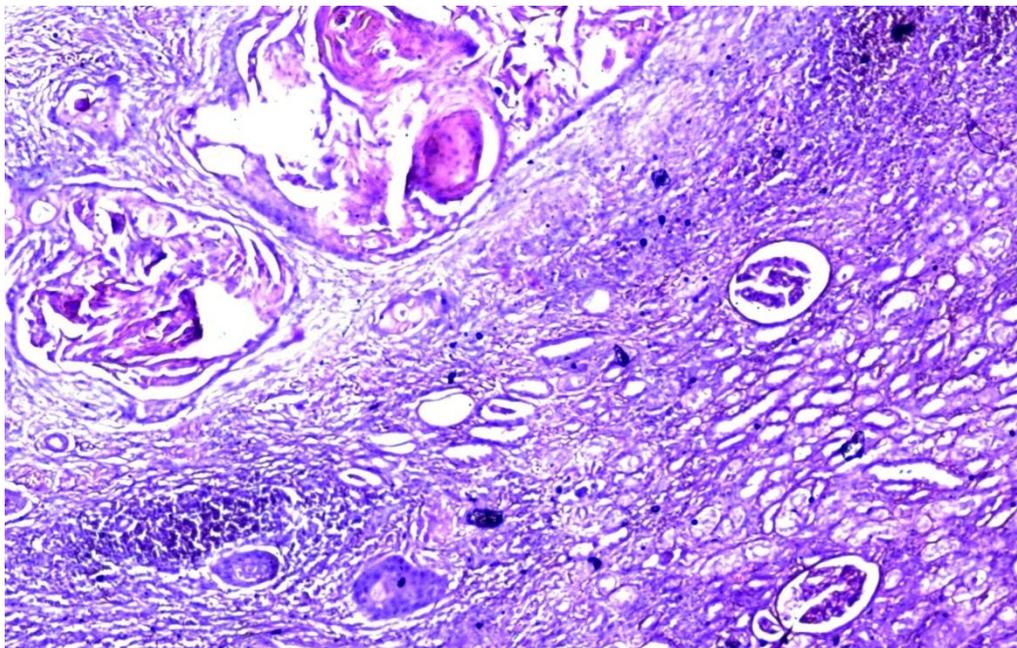
Despite the increase in radical surgery for esophageal carcinomas, about 43-63% of patients eventually experience a recurrent disease after surgery. Thirty to forty percent of recurrences are due to hematogenous spread, and common sites of recurrence are the liver, lung, bone and adrenal glands. Metastases from esophageal cancers represent 4.8 per cent of the secondary renal tumors and are usually bilateral [1]. The kidney is known to be the 4th or 5th most common visceral metastasis site of esophageal carcinomas. However, solitary renal metastasis of an esophageal squamous cell carcinoma has rarely been reported [2]. This report describes an autopsy case in which microsections examined from the cavity in unilateral kidney showed metastatic squamous cell carcinoma from the esophagus.

### CASE REPORT

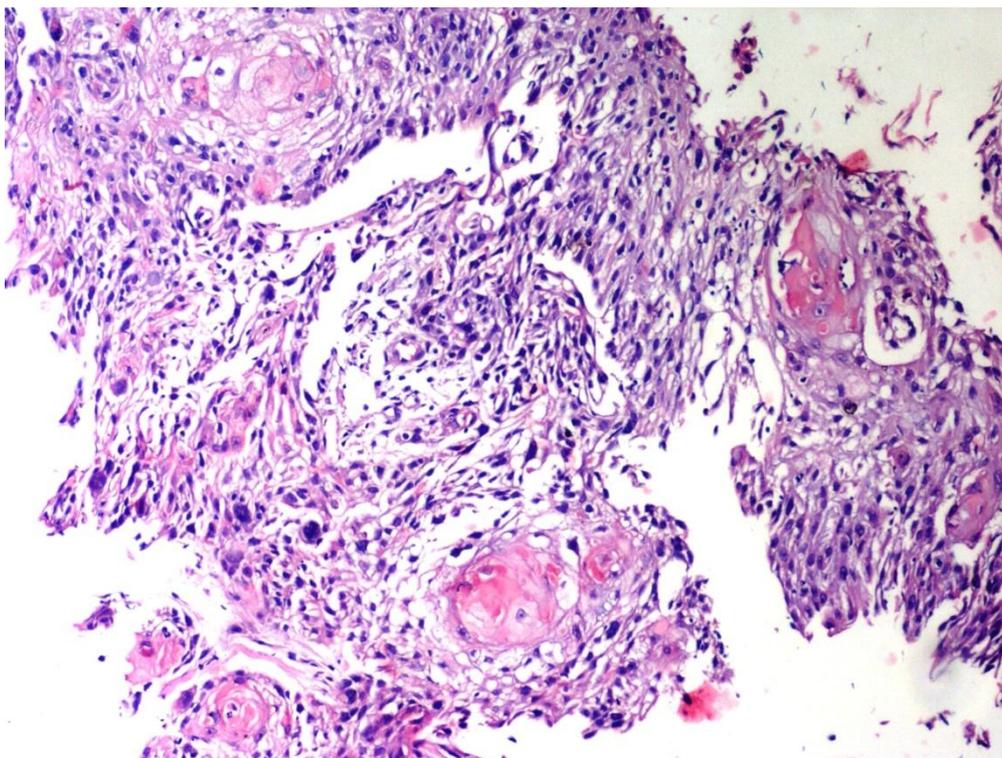
A 66-year-old man was admitted with an evaluation of progressive dysphagia. He had complaints of dysphagia and odynophagia. An endoscopy showed a circular ulcerofungating mass and stricture in middle part of esophagus. A biopsy revealed a moderately differentiated, invasive squamous cell carcinoma. The patient died during treatment. On autopsy, grossly esophagus had constricted lumen. The right kidney weighed 80 gram and measured 9x5x2cms. Cut section showed a cavity measuring 3cm in diameter and filled with whitish material. The left kidney was normal (Figure 1). Representative microsections examined from the cavity in right kidney showed metastatic squamous cell carcinoma (Figure 2), which coincided with the esophageal carcinoma (Figure 3).



**Figure 1:** Gross appearance of renal metastases showing cheesy material filled cavity of the mass.



**Figure 2:** Microscopic appearance of metastatic esophageal squamous cell carcinoma in the right kidney from the autopsy (H&E, x200).



**Figure 3:** Microscopic appearance of esophageal squamous cell carcinoma metastases to the right kidney (H&E, x200).

## DISCUSSION

The incidence of distant metastases from a newly diagnosed esophageal carcinoma has been reported as approximately 18% [3]. Because the prognosis of the esophageal cancer patient has improved significantly in recent years, the risk of a patient developing a distant metastasis has increased [4]. Because the renal blood flow accounts for approximately 20% of cardiac output, the kidneys are likely to be vulnerable to hematogenous metastases. Metastatic tumors in kidney are more common than primary renal carcinomas. More than 50% of renal metastases typically show bilateral involvement. Solitary unilateral renal metastasis is extremely rare. The clinical manifestation of a metastatic renal tumor differs from that of primary renal cell carcinoma in several aspects. The majority of primary renal cell carcinomas are, on average, larger than metastatic renal tumor, with most primary tumors measuring over 6 cm at the time of presentation, compared with less than 4 cm for metastatic tumors. Second, metastases tend to be less exophytic and wedge-shaped than a primary renal cell carcinoma. Metastatic renal tumors are frequently observed in subcapsular location, which can be explained by a tumor seeding into the vascular renal cortex, with

subsequent elongated growth being limited by the renal capsule, which produces a wedge shaped appearance [2]. Metastases tend to be of relatively high attenuation with minimal contrast enhancement (20-40 HU) and still retain thin smooth walls [5].

Unfortunately, the treatment of solitary renal metastasis of esophageal cancer is still controversial with either nephrectomy or conservative treatment with chemotherapy due to the rarity of such cases. The treatment outcome of a recurrent disease is disappointing and the prognosis is notoriously poor [4]. The median survival following the detection of a recurrent esophageal carcinoma is 5.0~7.0 months [2].

To summarize, we describe a rare case of secondary metastases in kidney on autopsy. On histology, it was confirmed to be from squamous cell carcinoma esophagus for which kidney is the rare site of metastases.

## CONFLICTS OF INTEREST

Authors declare that there are no conflicts of interest.

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