Gastric metastasis of renal cell carcinoma 20 years after radical nephrectomy

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ABSTRACT

Renal cell carcinomas account for 2-3% of malignant neoplasms in adults. The lung, soft tissues and bone represent the most frequent sites of distant metastasis in renal cell carcinoma. Gastric metastasis is rare. Our case was a 72-year-old man with complaints of fatigue and loss of appetite. In history, he had undergone radical nephrectomy due to renal cell carcinoma in 1993. A polypoid lesion was observed in upper gastrointestinal endoscopy. Histopathology of gastric biopsy specimen was reported as renal cell carcinoma. In English literature, there are 50 cases diagnosed as gastric metastasis from renal cell carcinoma. To date, there are only 4 cases with extremely late gastric metastasis of renal cell carcinoma. Herein, we present a rare case which underwent radical nephrectomy due to renal cell carcinoma and found to have gastric metastasis at 20. year of his follow-up.

Keywords: Gastric metastasis; metastatic tumor; renal cell carcinoma.

Introduction

Renal cell carcinomas account for 2-3% of malignant neoplasms in adults.^[1] It is the third most frequently seen neoplasia of the urogenital system.^[2] Twenty-five percent of the cases are at advanced stage, and metastasize.^[3] Renal cell carcinoma can spread through lymphatic, hematogenous, transcoelomic routes or through direct invasion.^[1] It most frequently metastasizes into lungs, soft tissue, bone, liver, and central nervous system.^[1] Apart from these conventional regions, metastatic lesions into the stomach are very rarely seen.^[1,3] Up to now we could detect only a total of 50 cases in the literature.^[1-12] In only 4 of these cases gastric metastases developed 20 or more years after diagnosis of renal cell carcinoma.^[5,8,12]

In this article we presented the 5th case with gastric metastasis of renal cell carcinoma 20 years after he had undergone radical nephrectomy because of renal cell carcinoma.

Case presentation

Laboratory test results of a 72-year-old male patient who presented to our clinic with

fatigue, and loss of appetite were remarkable as for hemoglobin (7.6 g/dL), and hematocrit (26.3%) levels which indicated presence of anemia. In radiological examination left kidney was not observed (history of nephrectomy). Calyceal ectasia, and stone were seen in the lower pole of the right kidney. In the right adrenal gland, a mass lesion consistent with a nonfunctioning hypoechoic adenoma measuring 23 mm in diameter was observed. Upper gastrointestinal system endoscopy revealed a polypoid mass with a diameter of 4-cm localized on the gastric fundus-corpus line, and biopsy material was obtained from the lesion. The patient had undergone radical nephrectomy in the year 1993 because of a mass lesion in the left kidney. Histopathology report indicated a light brown tumor measuring 5 x 4 cm, and diagnosed as renal cell cancer classical type, Fuhrman grade 1.

In sections prepared from endoscopic biopsy material, pieces of necrotic exudates, and gastric mucosa were seen. Tumoral cells coated with a single layer of mucin-producing columnar epithelium infiltrated lamina propria (Figure 1). Tumor cells had clear cytoplasm, and centrally localized dark-coloured nuclei, and hypervascular stroma (Figure 2).

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Figure 1. Gastric tissue, and cells with uniform , and clearly visible cytoplasm were seen (HE x40)

In immunohistochemical studies tumor cells yielded positive reactions with pancytokeratin, vimentin and CD10, but they did not react with TTF1, chromogranin, S100, and CD68 (Figures 3-5). CD34 did not stain tumor cells, while vascular network was stained with CD34. Cytoplasm of tumor cells could not uptake histochemical stains as PAS-AB, and mucincarmen (Figure 6). Ki 67 proliferation index was 7-8 percent. With the aid of histopathological, and immunohistochemical findings the case was diagnosed as metastasis of renal cell carcinoma. Chemotherapy was planned for the patient who rejected treatment.

Discussion

Most frequently primary tumors of malignant melanoma, lung, and breast cancers metastasize to the stomach. Primary tumors of other organs metastasize to stomach in 0.2-0.7% of the cases as detected in autopsy series.^[4] In an autopsy series of Davis and Zollinger consisting of 23,019 patients, in only 67 cases of primary tumors metastasized into stomach could be detected. However none of them was gastric metastasis of renal cell carcinoma.^[1]

Gastric metastases of renal cell carcinomas are generally late term symptoms, and emerge an average of 7 (0-24 years) years after the diagnosis. In most of the cases they are associated with other organ

Figure 2. When closely observed, tumor cells with clear cytoplasm, and centrally localized dark-coloured nuclei are observed (HE x200)

Figure 3. Tumor cells stained positively with pancytokeratine (Pankeratine x100)

metastases.^[5] In the English literature, in 50 cases with renal cell carcinomas, gastric metastases were reported.^[1-12] Median age of the cases was 66.5 (38-87) years. As is seen in our case, it is more frequently detected in men. It has nonspecific symptoms, and upper gastrointestinal symptoms as hematemesis, melena, anemia, abdominal pain, and dyspepsia.^[6] Our case had also nonspecific symptoms. Polypoid lesions are more frequently seen when compared with ulcerated lesions.^[4] They can appear as solitary or multiple lesions.^[5] In our case mass lesion was solitary, and polypoid.

In only 4 of 50 cases of renal cell carcinomas cited in the literature, gastric metastases of RCC emerged ≥ 20 years after nephrectomy.^[5,8,12] Ours is the 5th case. The reason why gastric

Figure 4. Tumor cells stained positively with vimentin (Vim x100)

Figure 5. Tumor cells stained positively with CD10 (CD10 x400)

metastases manifest years after diagnosis of primary tumor is not known fully, the role of immunological mechanisms has been presumed.^[3]

In the treatment of bulky tumors which cause bleeding, palliative approach as metastasectomy, and for hemostatic control embolization or endoscopic ablation are used. Apart from these endoscopic resection/excision, systemic chemotherapy are used for the treatment of gastric metastases.^[2,12] Our patient declined these treatments, and he is still under our control. In a recently published article achievement of complete remission was

Figure 6. Gastric epithelium stained positively with mucin, while tumor cells remained unstained (Mucincarmen x200)

reported during 24 months of follow-up after radiotherapy, and pazopanib treatment.^[13]

In conclusion, in the differential diagnosis of gastric mass lesions, renal cell carcinoma should be taken into consideration irrespective of the time elapsed after diagnosis of RCC.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

Peer-review: Externally peer-reviewed.

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