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Case Report

Coexistence of Chromophobe Renal Cell Cancer and Colon Cancer: A Case Report

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Received: June 11, 2021; **Published:** July 28, 2021

Abstract

Chromophobe renal cell carcinoma (ChRCC) is a subtype of renal cell cancer (RCC) with good prognosis which diagnosis mainly in sixth decade of life. Most cases of ChRCC diagnosed in early stages. 80% of ChRCC are 10-year disease free survival (DFS). While chromophobe renal cell carcinoma is a rare but also synchronous with colon cancer is a rare.

Keywords: *Chromophobe Renal Cell Cancer (ChRCC); Colon Cancer; Pathology; Risk Factor; Computed Tomography (CT); Magnetic Resonance Imaging (MRI); Renal Cell Cancer (RCC); Disease Free Survival (DFS)*

Introduction

Primary concurrent neoplasms are relatively rare. The pathogenesis and etiology of these co-occurring tumors remains unclear. It has been suggested that concurrent neoplasms can arise from tissues of similar embryonic origin when simultaneously influenced by factors such as carcinogens or hormones. Tumors in the colon and kidney are often diagnosed these days because ultrasound, computed tomography (CT), or magnetic resonance imaging (MRI) are widely used.

Case Report

A 25-year-old female presented to clinic with severe abdominal pain and vomiting Physical examination revealed abdominal distension and tenderness and no other findings. The patient family revealed her mother had colon cancer.

The blood investigations showed severe picture of iron deficiency anemia with normal LFT and RFT. Abdominal CT scan showed a well-defined significant uniform circumferential wall thickening involving short colonic segment of about 7 cm long mainly the left third of the transverse colon and the splenic flexure. The maximum thickness about 3.2 cm, with subsequent obliteration and significant narrowing of its lumen and proximal dilatation of the colon, associated with significant standing of the adjacent structures and present adjacent lymph node enlargement (Figure 1).

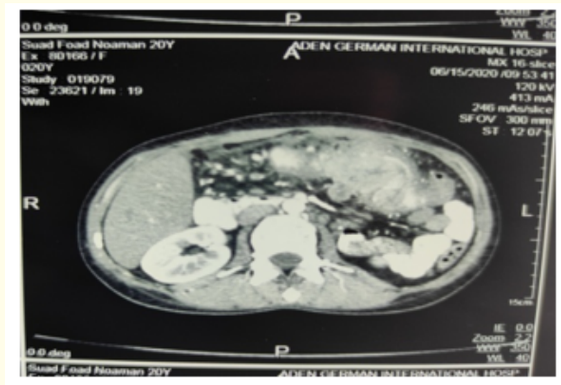

Figure 1: *Uniform circumferential wall thickening involving short colonic segment of about 7 cm long mainly the left third of the transverse colon and the splenic flexure.*

A well-defined highly vascular exophytic mass lesion arising from the lateral aspect of the right renal upper pole measured about 34 x 28 x 34 mm, the mass is confined by the perinephric fascia with clear fat plans.

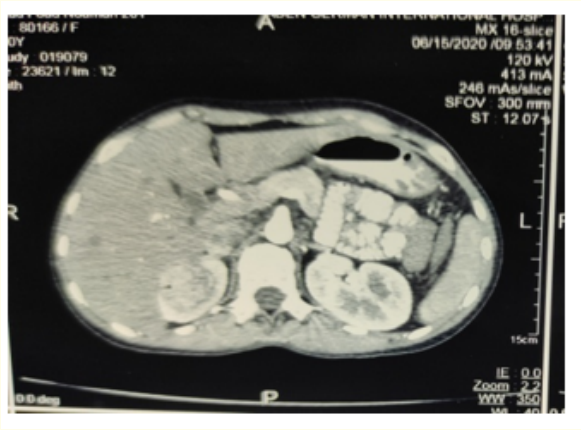

Figure 2: *Right renal upper pole mass.*

The patient underwent surgical intervention and was first subjected to resection of tumor and colectomy of transverse colon composed of a part of transverse colon measure 22 x 13 x 9 cm surrounded by fat with large mass measure 11 x 9 cm and lymph nodes clearances.

The second operation was right nephrectomy composed of right kidney measure 11 x 7 x 5 cm irregular, dark brownish in color and surrounded by fat with mass measure 2.5 x 2 cm.

Histopathological features: The microscopical examination of transverse colon reveals tubular and glandular to solid growth pleomorphism, nuclear hyperchromasia, irregular nuclear membrane, prominent nucleoli and high N/C ratio, the malignant growth tend to invade the full thickness of intestinal muscular wall, and the serosa, both resection margin were free. Lymph nodes 1/5 were positive. Then conclusions confirm picture of moderately differentiated adenocarcinoma T3N1Mx.

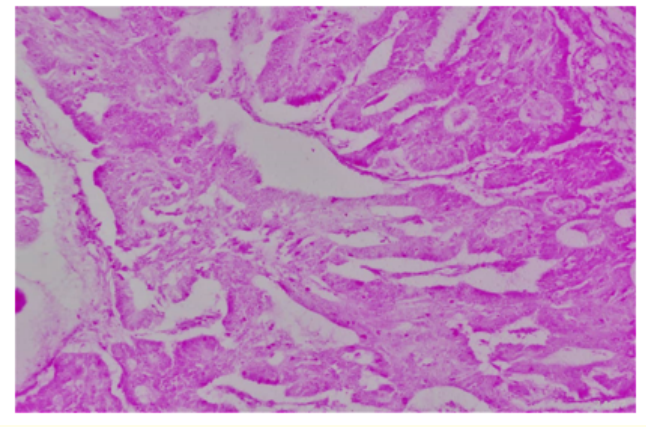

Figure 3: *Picture of moderately differentiated adenocarcinoma of colon.*

The microscopical examination of the kidney reveals well-delineated mass surrounded by a thin fibrous capsule. It is formed by solid nests, adenomatous glandular growth, alveolar like growth with microcystic changes of large polygonal cells has an abundant transparent to slightly reticulated cytoplasm with central located dark staining to vesicular nuclei most of them surrounded by a clear perinuclear halo with scattered small calcified spherules of chromophobe renal cell cancer.

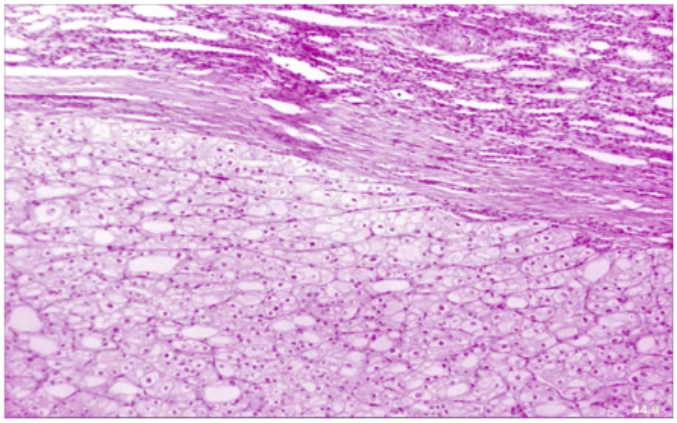

Figure 4: *Chromophobe renal cell cancer.*

Discussion

The incidence of RCC is documented with malignancies that develop in other locations. These malignancies include urinary tract cancer [1], colon cancer, esophageal cancer [2], lung cancer, breast cancer, gynecological cancer, sarcoma and non-Hodgkin lymphoma. It has been estimated that tumors of the genitourinary and gastrointestinal tracts are among the most common concurrent carcinomas [3]. However, the responsible pathogen remains unknown.

The incidence of synchronous malignancies is well documented in the literature. In colon, rectal and simultaneous renal cell carcinoma, the incidence varies widely. Capra., *et al*. [4] estimated 0.03 - 0.5% and O'Boyle and Kemeny [5] reported an incidence of 0.5%, while Halak., *et al*. [6] described 4.85%, although they acknowledge that this value may not reflect the actual incidence.

The multiple primary malignant pathogenesis and their etiology remain unexplained. It is believed that the interaction between genetic and environmental risk factors, common in both cancers, can cause the development of many malignant diseases. Common risk factors include smoking, pollution, UV rays, chemotherapy, radiation therapy, and endocrine drugs. It is believed that these factors can act alone or in combination [7].

Renal cell carcinoma diagnosed worldwide each year reach around 200,000 new cases, while the number of deaths from renal cell carcinoma is 100,000. Treatment can be carried out in 70 - 90% of patients with stage 1 TNM and in 55 - 70% of patients in stage II in 20 to 30% of patients in stage III and in less than 10% in stage IV [8].

Polymorphisms are characterized as the loss of the chromosome-containing chromosome: 1, 2, 3p, 6, 10, 13, 17p, 17q and 21, hypodiploid DNA context, as well as telomere shortening. P53 mutations in 27% of cases and LOH at the 10q23.3 chromosomal region have also been reported [9,10]. It can be useful in distinguishing between clear, papillary, and chromophobic subtypes of RCC.

Conclusion

According to the literature and clinical findings and American Urological Association recommendations for the treatment of RCC, the presence of renal carcinoma in coexistence with a primary tumor is also a clinical entity. Important clinical features should be taken into account when evaluating these patients. Particularly in patients with ChRCC, we believe that physicians should be more aware of the risks of developing a distinct primary metastasis and should carefully treat the patient's concerns or new symptoms.

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Volume 4 Issue 8 August 2021