Case Report 01:

Synchronous Tumour of Renal Cell Carcinoma and Colon Cancer

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Introduction
Synchronous tumour is a term used to describe a new or second primary cancer that develops at the same time as the first primary cancer, either in the same organ or in a different organ with the same molecular basis. Synchronous cancer is not considered metastatic relapse [3]. Although colorectal cancer is the second most common cancer among general population, synchronous primary colon and renal cancer is a rare [5]

Case presentation
A 72 years old male, underlying diabetes mellitus, hypertension and dyslipidemia. He complained of external hemorrhoid in March 2024. No change in bowel habit, no loss of weight or loss of appetite. Feacal Occult Blood Test was done and positive. Subsequently was referred to hospital for colonoscopy. Colonoscopy was done, noted fungating mass at sigmoid colon, 30cm from anal verge (Fig 1). Biopsy taken.

CT Thorax, Abdomen and Pelvis was done noted enhancing colonic wall thickening involving proximal sigmoid colon, at the junction of descending/ sigmoid colon. The length is approximately 3.7cm. Presence of luminal narrowing at this region, however rectal contrast are able to pass through. No proximal bowel dilatation (Fig 2). There is also a well-defined heterogeneously enhancing exophytic renal mass at the anterior upper pole of left kidney. It measures 5.1cm x 5.4cm x 6.2cm (AP x W x CC). The lesion is abutting on the left renal vein and left renal artery with no clear fat plane. The lesion is 0.1cm from the renal pelvis. Presence of central hypodense are suggestive of necrotic component (Fig 3).

Laparoscopic anterior resection and left radical nephrectomy operation was performed. HPE of the sigmoid colon turn out as adenocarcinoma, moderately differentiated pT2N1b, Modified Dukes classcification C1. HPE of the left renal tumour turn out as clear cell carcinoma WHO/ISUP Grade 2, pT1b. Tumour marker trend : CEA 4.3 to 3.1 to 2.8 and latest 2.7 ng/ml. Serum PSA : 4.4 ng/ml. Renal function test also normal – urea 7.3, creatinine 93, Cloride 103, Sodium 136, Potassium 4.3.

Discussion
According to [2] , among 24,642 patients treated for Colorectal cancer and 7,366 treated for Renal Cell Carcinoma in August 1969 till December 2009, only 42 patients (0.13%) of them presented with synchronous tumour of the two. Studies suggest that patients with a history of both CRC and RCC are at increased risk for the development of additional primary malignancies, suggesting a possible underlying genetic predisposition. From the data collected by [2], 42 from 101 patients diagnosed as having colorectal and renal cell carcinoma developed third primary tumour. The most frequent third primary tumors were breast cancer in women (5 patients [21% of women]) and prostate cancer in men (12 patients [15.5% of men]).

There are several risk factors for multiple primary malignancies to occur. The risk factors include [3]: 1. Virus: Human papilloma virus (HPV): gynecological cancers. In oral-cavity squamous cell carcinoma - 30% of the patients were infected with HPV, especially types 16 and 18. These types are highly associated with susceptibility to cancer.

2. Chemotherapy: individuals who were currently on treatment were 2.676 times as likely to have two or more cancers as compared to individuals not on treatment.
3. Radiation: estimated to be about 8% in adults within 10 years.
4. Genetics: Lynch syndrome-hereditary nonpolyposis colorectal cancer (HNPCC), BRCA gene: breast and ovarian cancers, increase the risk of pancreatic and prostate cancers. Multiple endocrine neoplasia (MEN1 and MEN2): endocrine neoplasia and thyroid cancers.
5. Associated cancer: multiple myeloma have high risk of hematologic malignancy.
6. Environment: Smoking, alcohol, organic and inorganic chemicals, sunlight and ionizing radiation, diet and obesity, hormonal therapy, and air and water pollution.
7. Betel Quid Chewing: Contains arecoline and arecaidine, which play an important role in the pathogenesis of oral cancer.
8. Chronic kidney disease.

Conclusion

Incident of synchronous tumour or second primary malignancy is rare. However, attention should be taken towards the patient who are predisposed to the risk factor of getting multiple primary tumour such as viral infection, use of chemotherapy, radiation, genetic factors, associated type of malignancy, environment, used of betel quid chewing and chronic kidney disease. For clinician, extra caution must be made in choosing treatment of chemotherapy and frequency of exposure to radiation.

Keywords *: Synchronous tumour, renal, colon*

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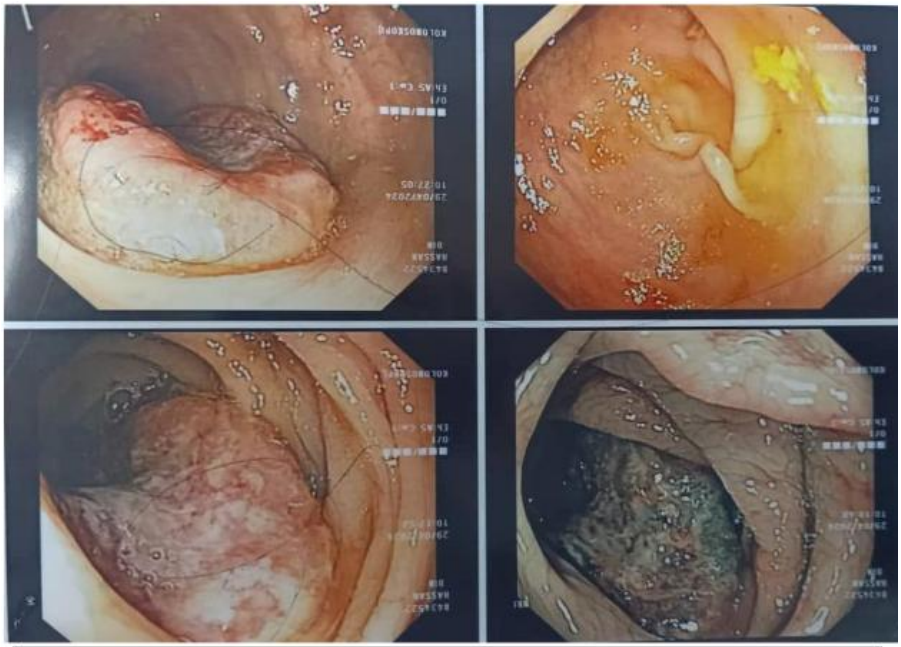

Fig 1: colonoscope findings: Fungating mass (malignant looking) at sigmoid colon 30cm from anal verge.

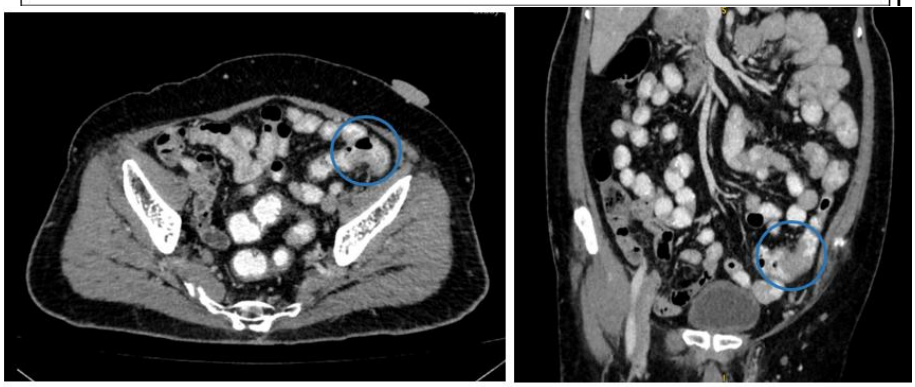

Fig 2: Eccentric enhancing colonic wall thickening involving the proximal sigmoid colon, at the junction of descending/ sigmoid colon. The length is approximately 3.7cm. Presence of luminal narrowing at this region, however rectal contrast are able to pass through. No proximal bowel dilatation.

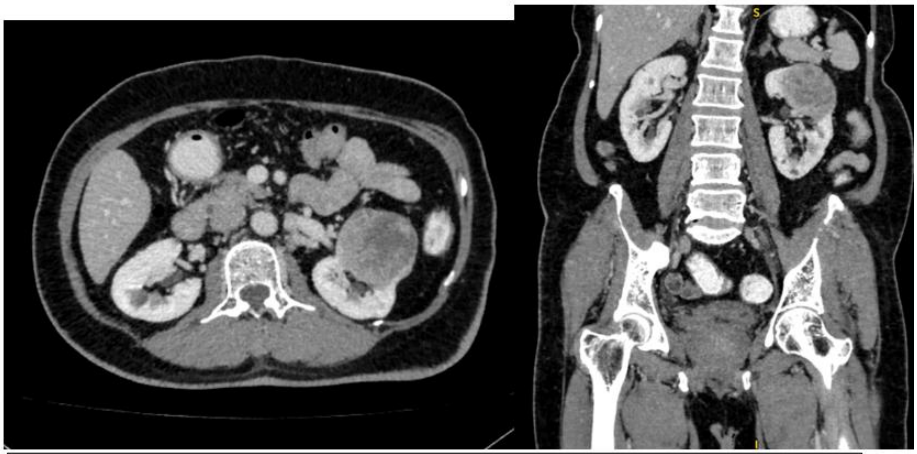

Fig 3: well-defined heterogeneously enhancing exophytic renal mass at the anterior upper pole of left kidney. It measures 5.1cm x 5.4cm x 6.2cm (AP x W x CC). The lesion is 0.1cm from the renal pelvis. Presence of central hypodense are suggestive of necrotic component.