

Case report**Metachronous Multiple Primary Malignancy of Rectum and Esophagus, a Rare Combination : Case Report**Effat un nesa¹, Huang Xiaochen¹, Bin Yao¹, Wang Cong¹, Tamanna Khanam², Cheng Yu Feng^{1*}*1. Department of Radiation Oncology of Qilu Hospital, Shandong University, Jinan 250012, Shandong, P.R. China**2. Department of Gastroenterology of Qilu Hospital, Shandong University, Jinan 250012, Shandong, P.R. China***ABSTRACT**

The diagnosis of multiple primary malignant neoplasm (MPMN) in a patient has been reported rather frequently during the past decade. Now a days the frequency of MPMN increase. Here we reported a case of metachronous multiple primary malignancy of rectum and esophagus in between four year gap in a 81 years old man. In this case the patient admitted into hospital due to blood in stool and cauliflower mass in rectum. After biopsy rectal adenocarcinoma diagnosed and successfully operated. Four year later he again admitted into hospital due to severe dysphagia and after endoscopy diagnosed as a case of esophageal squamous cell carcinoma and plan for treatment to give radiotherapy. But treatment couldn't continue due to his poor health.

Key Words:

Metachronous; MPMN; Esophageal squamous cell carcinoma; Rectal adenocarcinoma

INTRODUCTION

The presence of Multiple primary malignant neoplasm was first reported more than 100 years back^[1]. Since then, this occurrence has been identified with increasing frequency due to the increase in life expectancy of cancer survivors—a boon of advancements in cancer therapeutics and to the more comprehensive screening protocols used in cancer patients. The two cancers are either detected at the same time (synchronous) or one may follow the other after a period of time (metachronous). Metachronous multiple primary malignant neoplasms in a single patient have been well documented in the literature. But, metachronous double primary malignant tumor of rectum and esophagus in a single patient has been reported only few.

CASE PRESENTATION

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A 81-years-old Chinese male, hailing from Zibo city came to our hospital and admitted in Hepatobiliary surgery Department in June, 2009 with the complain of blood in stool for 4 years, alteration of bowel habit for 1 year but the symptoms was severe for last 6 month. Per rectal examination showed there was cauliflower mass 2cm from the edge of the anus, it lies 4-6 degree clockwise pattern, size 2*2 cm, hard, tender with no bleeding, muscle tone poor. Biopsy (Fig.1) report showed that rectal adenocarcinoma which is moderately differentiated (not well or poorly differentiated), ulcerating, cut margin 3.8*0.9cm, invasion of rectal serosa. But no perianal lymphnode metastasis. So diagnosed as Rectal adenocarcinoma pT3N0M0 (stage IIA). And he was received surgery soon after that (Miles' operation). And treatment outcome was good so no need to receive chemotherapy or radiotherapy.

Four years later in June 2013 he admitted to our hospital with the complain of severe dysphagia. After endoscopy (Fig.2) it showed narrowing of esophagus 30 cm from upper incisor teeth. And CT scan revealed that esophageal mass with metastasis of mediastinal and supraclavicular lymphnodes. Cytological (Fig.3 exfoliative cytology) examination showed that squamous cell carcinoma. So he diagnosed as esophageal squamous cell carcinoma (ESCC) with lymphnode metastasis. Biopsy was not done. After that he received radiotherapy (3D CRT) and dose was 2800cGy/14 fraction. Treatment was interrupted due to undernutrition which due to his poor diet because edema in

esophagus. Soon after that Scheduled radiotherapy was stopped. Within these four year in May 2010 he was diagnosed as left sided Adrenocortical adenoma and receive surgery(Leparoscopic adrenal tumour resection). He again admitted in June 2010 and diagnosed as Abdominal wall hernia(incisional hernia) and received surgery (laparoscopic parastomal hernia tension free repair) at nearby hospital.

He quit smoking and drinking alcohol for over 10 years. He have no family history of cancer. He has no history of hypertension, diabetis mellitus, coronary heart disease, infectious disease.

DISCUSSION

MPMN in a single patient are relatively rare. In reviews of the literature regarding MPMN, the overall occurrence rate of multiple primary malignancies is between 0.73% and 11.7% [2]. Multiple primary cancers have become more common due to an increase in the number of elderly patients and advancement in diagnostic techniques. MPMNs were first presented by Billroth in late nineteenth century [3]. The neoplasms may be limited to a single organ or it may involve multiple and anatomically separate organs, as our case. There are three diagnostic criteria proposed by Warren and Gates (1932) to determine whether the second lesion is truly a primary or represents metastases [1] and the criterias are follows: 1) each tumor must present definite features of malignancy, 2) each must be distinct, and 3) the chance of one being a metastasis of the other must be excluded [4]. MPMN may be synchronous or metachronous depending on the interval between their occurrence [2]. In case of synchronous cancer, second tumors occurring simultaneously or within 6 months after the first malignancy, while the metachronous cancers are secondary cancer that developed after more than 6 months from the diagnosis of first malignancy [6]. MPMNs are classified into four types: 1)

multicentric, stand for-if the two distinct carcinoma arise in the same organ or tissue; 2) systemic, if they arise on anatomically or functionally allied organs of the same system (colon and rectal cancers), 3) paired organs, as in the breasts, and 4) random, if they occur as a co-incidental or accidental association in unrelated sites [2]. In our patient malignant feature were distinct and proven in each tumour by patient reports. Each tumor was pathologically categorized as a different type; namely, the one detected in rectum was a moderately differentiated adenocarcinoma that was proven by biopsy and another one was ESCC that was cytologically proven. ESCC occur four year after rectal adenocarcinoma. These findings might also support the fact that these two cancers occurred in a random and metachronous manner.

Colorectal cancer is the second most common malignancy both in incidence and mortality affecting men and women [5]. Some environmental and dietary factors have been established as contributing to colorectal carcinoma. Factors that increase the risk of developing this disease include increasing age, male sex, family history of colorectal cancer, increasing height, increasing body mass index, processed meat intake, excessive alcohol intake and low folate consumption. Out of these risk factors only increasing age, male sex and excessive alcohol consumption have been found to be associated with rectal cancer [8]. In our case these three risk factor was present. The patient give longterm history of melena and alteration of bowel habit. per rectal examination showed cauliflower mass that after biopsy determine rectal adenocarcinoma pT3M0N0. The patient received only surgery and the prognosis was good. The limited subset of patients with T3N0 rectal cancer may have an excellent outcome with surgery alone [8].

Esophageal carcinoma is the ninth most common malignancy and ranks as the sixth most frequent cause of cancer death in the whole over the world [10]. The most common histological subtype of primary esophageal cancer is squamous cell carcinoma [9] in upper and middle esophagus and mortality rate

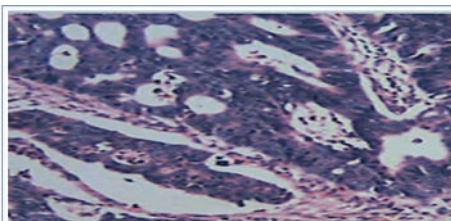


Figure:1 biopsy shows moderately differentiated adenocarcinoma of rectum with no perianal lymph node metastasis

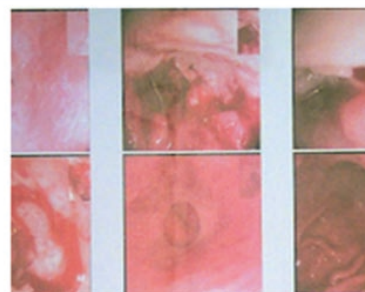


Figure:2 upper GIT endoscopy shows bleeding and erosion surround the lumen and stenosis found 30cm from upper incisor teeth



figure:3 exfoliative cytology of esophagus shows squamous cell carcinoma

is so high^[10]. In china ESCC is one of the foremost malignancy. Also in the United states the frequency of new cases(5.7%) and frequency of cancer death(10.4%) due to esophageal cancer increasing^[11]. Long term use of the tobacco and alcohol increase the incidence of squamous cell carcinoma of esophagus. Most common symptom of esophageal cancer is dysphagia. In this cancer lymphnode involvement is more prone due to so many lymphnode around esophagus. In our case patient got admitted to hospital due to severe dysphagia and investigation showed esophageal carcinoma with mediastinal and supraclavicular lymphnode metastasis. So we plan for his treatment 3D CRT. But due to his edematous esophagus he couldn't eat properly and so why he was undernutrition. And discontinue his radiotherapy. ESCC is relatively lethal disease and most of patient die due to undernutrition.

This case is clinically important because the age of this patient increased the risk of MPMN. The increasing effectiveness of some cancer therapy and the aging of the population have expanded the

problem of MPMN. Spratt and Hoag in an article concluded that, persons living to extreme age can expect to have multiple cancers with greater frequency, empirically^[11].

CONCLUSION

Rectal adenocarcinoma and ESCC, each of these single malignancy may common in single patient. But these two combination of MPMN in a single patient is very rare. Despite MPMNs increasing rates, though it is remain rare^[7]. In case of metachronous MPMN sometimes 2nd cancer confused with metastasis of first cancer. So it should be keep in mind and proper history taking, physical examination and appropriate investigation may help to establish the proper diagnosis. It would appear that individuals who have developed one malignancy might be at greater risk of developing a second cancer. This may not be unreasonable. Because the first tumor was probably caused by agents or factors that are more likely still at work. The initiating and promoting agents will not have changed.

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