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CASE REPORT

MALIGNANT CARCINOID SYNDROME IN A YOUNG PATIENT WITH LIKELY MESENTERIC PRIMARY- A RARE TUMOR WITH UNCOMMON PRESENTATION

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ABSTRACT

Gastrointestinal Carcinoid is a rare neoplasm initially manifesting with non-specific abdominal symptoms making diagnosis usually delayed for many years. As a result, one third of patients are diagnosed with metastasis. We report a young female who presented with three years duration of typical clinical features of flushing, watery diarrhea and carcinoid heart disease. Diagnosis was confirmed by findings of mesenteric mass, multiple liver masses, elevate durinary 5-HIAA level and typical immunohistopathologic findings on special staining of sample obtained from the liver mass. This is a typical example of delayed diagnosis of the disease making treatment extremely difficult.
***Key words**: malignant carcinoid, mesenteric.*

INTRODUCTION

Carcinoid tumor is rare neoplasm with incidence of 1-2 cases per 100,000 populations per year (1-2). Gastrointestinal (GI) carcinoid represents 5% of all GI cancers (2). Its incidence however, is increasing at a rate faster than any other malignancy especially in blacks (2,3). If diagnosed at an early stage the disease can be cured (1). However, early diagnosisis extremely challenging as thethe manifestations are non-specific and physicians' experience with this rare tumor is limited (4). The correct diagnosis is typically made 4-9 years after onset of symptoms and after the patient has been seen by six physicians (1,4,5). As a result, 30-43% of patients already have metastatic disease at diagnosis (1,2). Our patient had symptoms of metastatic disease for more than three years before the diagnosis was made. This clearly suggests critical need for information that can facilitate early diagnosis and management (4). Our case report aims to serve this purpose.

CASE REPORT

An 18 years old female patient from Arsi, Ethiopia admitted to Tikur Anbessa specialized hospital with main complaints of intermittent episodes (2-6 times per day) of unpleasant feelings of warmth, associated reddish skin discoloration, intermittent watery diarrhea and body weight loss for three years. The triggers included hot weather, spicy meals and physical exertion. She quit her high school education two years previously due to exertional dyspnea, easy fatigability, leg swelling and yellowish discoloration of eyes. For these complaints, she was seen at nearby clinics and hospital at different times. She was started on diuretics seven months previously. The leg swelling improved partially but her other conditions were deteriorating. She was referred to our hospital for further evaluation.

Physical examination findings were remarkable for normal vital signs, raised jugular venous pulse (JVP), and cardiac murmurs suggestive of tricuspid regurgitation (TR) and pulmonicstenosis (PS). The liver was enlarged with a total vertical span of 16cm along the right midclavicular line. No bruit was heard, and there was sno significant tenderness. There was bilateral non-pitting edema of the legs with early lichenification of the skin on the flexure sites. During flushing episodes generalized skin hyperemia was noted.

The most important findings on laboratory investigation include low total serum protein (5.5gm/dl), and significantly increased 24-hour urinary 5-hydroxyindolacetic acid (5-HIAA) of 174mg /dl (normal value 3-5mg/dl). Urine dipstick test was negative for albumin. Esophagogastroduodenoscopy and colonoscopy were negative for features of neoplastic lesions. Chest x-Ray showed mild cardiomegaly. Abdominal ultrasound reported hepatomegaly of 17cm with multiple echogenic solid masses with central necrosis. Echocardiography revealed thickened and stenotic tricuspid and pulmonic valves. Regurgitations were noted on both valves. Right heart chambers were dilated with normal findings on the left side. CT scan of the abdomen revealed a hypervascular mesenteric mass as well as multiple hypervascular liver masses. Ultrasound guided fine needle aspiration specimens were obtained from the liver masses. Histopathology analysis was performed using different histochemical staining techniques, and showed typical findings of neuroendocrine tumor.

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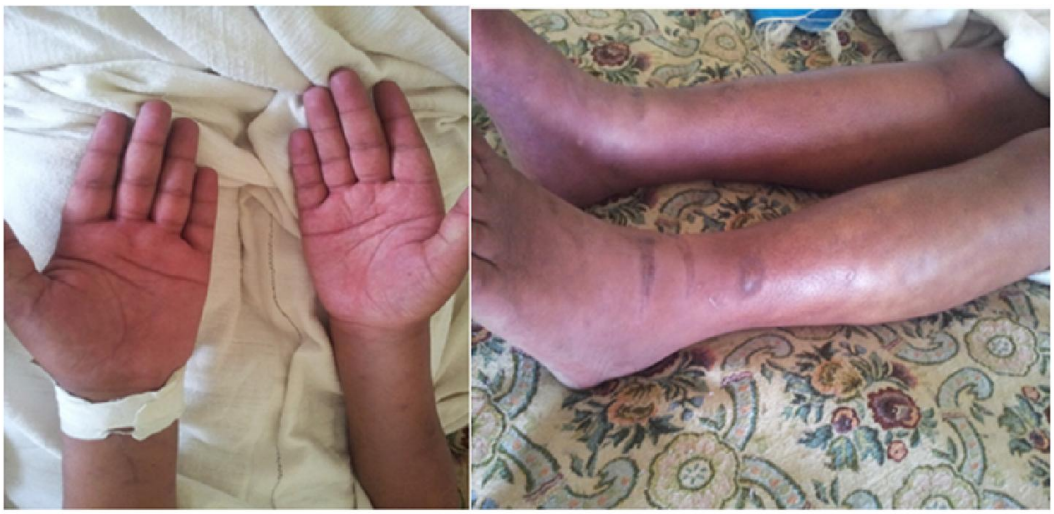

Fig I: Picture taken during the flushing episode showing intense hyperemia of the extremities and non-pitting edema of the lower limbs.

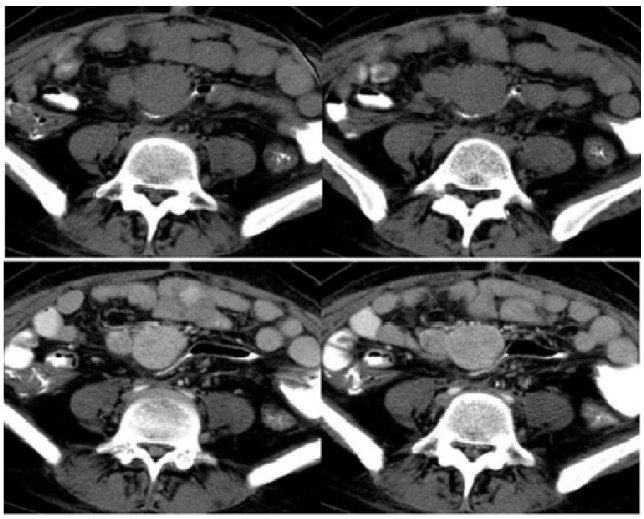

Fig II: axial CT scan of the lower abdomen (precontrast above and post contrast below) showing a hypervascular mesentric mass.

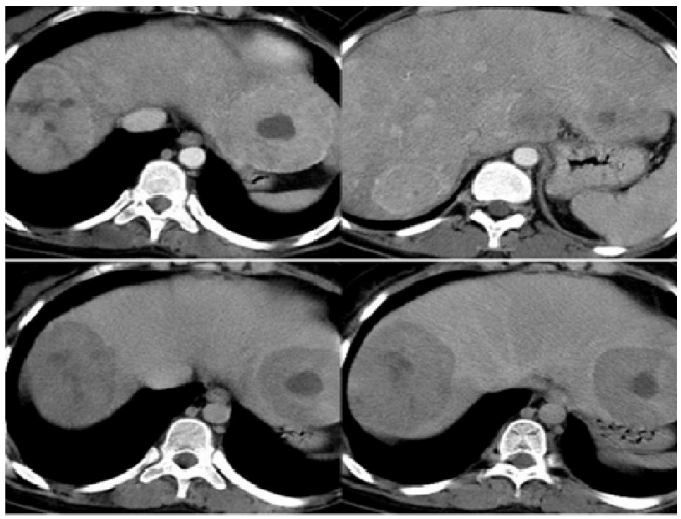

Fig III: axial CT scan of the upper abdomen (arterial phase above and portal venous phase below) showing multiple hypervascular liver masses.

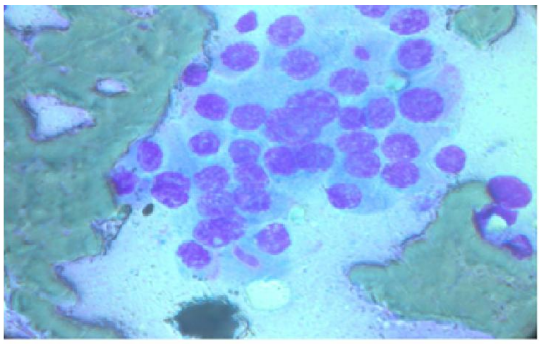

Fig V: wright stain 40x: salt and pepper nuclear appearance & abundant eosinophilic granular cytoplasm of carcinoid tumor cells.

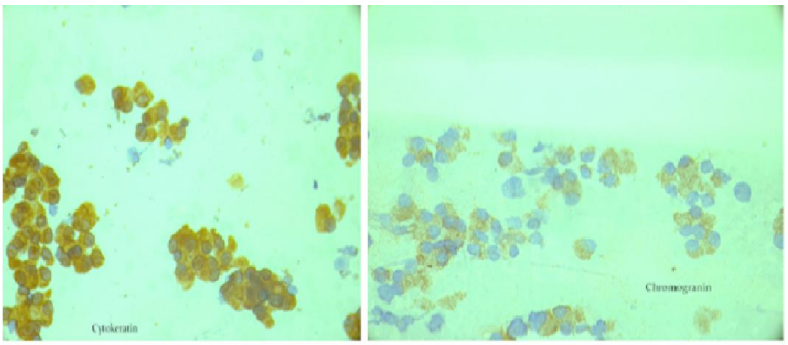

Fig VI: Cytokeratine immunostain on the left and Chromogranin immunostain on the right 20X revealing strong and diffuse Cytoplasmic positivity of carcinoid tumor cells

DISCUSSION

The German pathologist Siegfried Oberndorfer coined the term "Karzinoide" in 1907, meaning carcinoma-like (3). The highest incidence of carcinoid syndrome is reported in patients around 50-70 years old with no sex predilection (1,2,6). Functional carcinoid tumors release different secretary products, including amines, kallikrein, and prostaglandins (4). The serotonin from mid-gut tumors is metabolized in the liver to 5-hydroxyindoleacetic acid, which is subsequently secreted in the urine as 5-Hydroxyendolurinary acetic acid (5-HIAA) (6). Therefore, malignant carcinoid syndrome occurs when the secretary products reach the systemic circulation bypassing metabolism by the liver (1). This mostly occurs as a result of metastasis to the liver (in 95% of cases) (6).

The most common manifestations include secretary diarrhea (83%), dry flushing (49%), right-sided endomyocardial fibrosis, valvular insufficiency (tricuspid regurgitation, pulmonic regurgitation, tricuspid stenosis, pulmonic stenosis), and heart failure (8-56%)(5). Other manifestations may include dyspnea (20%), bronchospasm (6%) and pellagra (7%)(6).

The diagnosis is usually based on the clinical features and supported by the presence of high levels of 24-hour urinary 5-HIAA (sensitivity of 73% and a specificity of 100%) (1,4). CT is excellent method of imaging and Functional imaging (Somatostatin receptor scintigraphy) is other modalities (1,4,7). Finally, diagnosis is confirmed by tissue pathologic testing with immunostaining of the proliferative marker Ki67 and immunolabeling for neuroendocrine tumor markers such as chromogranin A (5).

Surgery is the definitive option if the tumor is respectable and there is curative intent (5). Somatostatin analogues (Octreotide and Lanreotide) are first-line agents, though not yet available in the Ethiopian setting to provide symptom control, reduce the risk of carcinoid crises, and facilitate surgical procedures contributing to patient survival (4).

Conclusion: This case represents a typical example of delayed diagnosis of metastatic carcinoid syndrome making treatment extremely difficult. Early consideration of the diagnosis is of paramount importance for optimal treatment outcomes.

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