Case Report

Gall Bladder Malignancy with a Collision of Squamous Cell Carcinoma and Mucin-Secreting Adenocarcinoma

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Abstract

Collision tumours are extremely rare neoplasms in the gall bladder with no management guidelines at present. We present the case of a female with a histopathologically diagnosed collision of squamous cell carcinoma and mucin-secreting adenocarcinoma of the gall bladder. This is to create awareness on this rare lesion and underscore the importance of pathology in gall bladder lesions.

Keywords: Adenocarcinoma, Collision, Malignancy, Squamous.

INTRODUCTION

Gallbladder carcinoma (GBC) is an uncommon neoplasm with female preponderance and poor prognosis.[1] Globally, it ranks 25th in incidence, accounting for 0.6% (115,949/19,292,789) and 0.9% (84,695/9,958,133) of new cancer cases and cancer deaths respectively, with an age standardized rate and cumulative risk of 0.9/1.4 and 0.1/0.16 (M/F) respectively.[2] However, GBC shows marked ethnic and geographical variation in different parts of the world,[3] that are attributed to genetic predisposition and environmental factors, including parasite-induced chronic inflammation.[4] The reported peak age of incidence is the 7th decade.[5] In Nigeria, GBC ranks 31, accounting for 222/124815 (0.18% and cumulative risk of 0.03) of new cancer cases, and 0.25% of cancer deaths (29th in position).[6]

Most GBCs are adenocarcinomas, with squamous cell carcinoma (SCC) accounting for less than 1% of cases of GBCs.[7] Also, mucin-secreting adenocarcinoma (MAC) accounts for only 5% of the gall bladder adenocarcinomas.[3] Collision tumours (CTs) are rare tumours, more so in the gall bladder. Few cases have been reported in the literatures. We report

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here a case of gall bladder collision of SCC and MAC, which to the best of our knowledge is the first of its kind to be reported.

CASE REPORT

A 78-year-old female farmer presented with four months history of recurrent heartburns and crampy epigastric pain that is unrelated to feeding, no passage of bloody or dark tarry stool. There is history of use of over-the-counter medications including non-steroidal anti-inflammatory drugs (NSAID). She was not a known hypertensive or diabetic, but the blood pressure at the time of presentation was 160/90 mmHg. She was then managed on out-patient basis for NSAID induced gastritis/peptic ulcer disease in a newly diagnosed hypertensive with Amlodipine and anti-ulcer medications. The blood pressure came under control, but no relief of the dyspeptic symptoms.

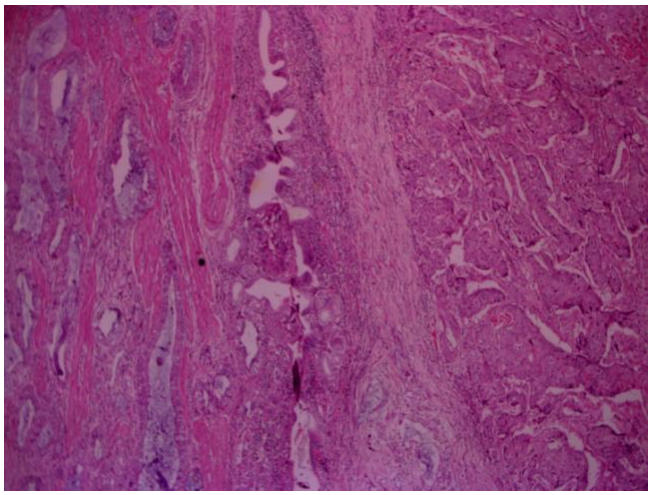

Figure 2: Histologic sections show well differentiated squamous cell carcinoma clearly separated from mucin-secreting adenocarcinoma by a thick fibrous band

About four months later, she developed jaundice with generalized body itching, no passage of coke coloured urine, no passage of bloody, dark tarry or clay stool. The epigastric pain continued associated with non-projectile vomiting of yellow, non- bloody vomitus, anorexia, easy satiety and weight loss. On examination, she was chronically ill-looking, pale (with a packed cell volume of 22%), afebrile, icteric and no obvious oedema or ascites. The vital signs including the blood pressure were within normal range. The chest was clinically clear while abdominal examination revealed flat abdomen with marked epigastric tenderness and palpable gall bladder.

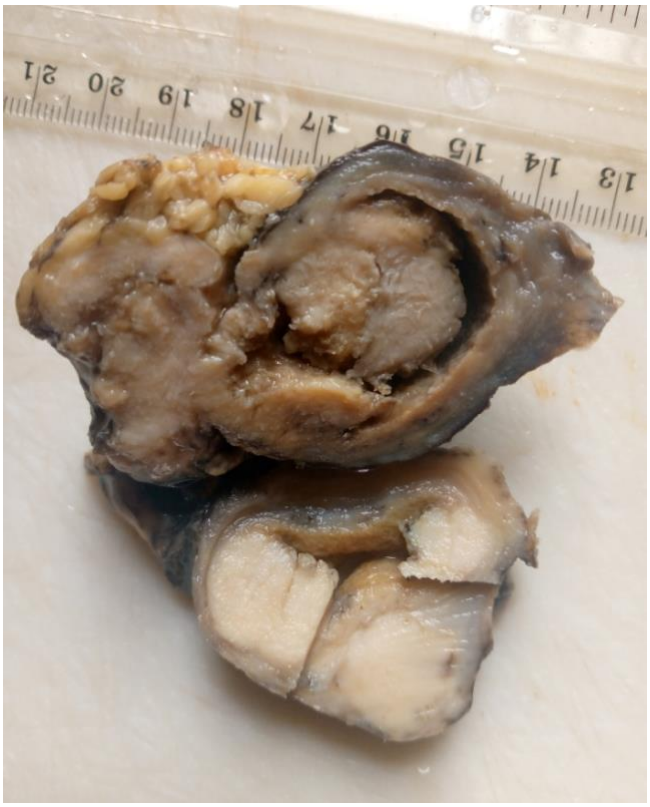

Figure 1: The wall is diffusely thickened and the cut section shows nodular lesion

She was admitted and investigated for extra-hepatic obstruction from gall bladder lesion. The fasting plasma glucose was 215mg/dl; Urinalysis showed proteinuria and presence of pus cells and granular cast; the Liver Function Test was normal except for raised total and conjugated bilirubin; the plasma electrolytes and serum urea and creatinine are within reference ranges. The clotting profile including prothrombin time (12.5 seconds) were within reference range, chest radiograph shows cardiomegaly with aortic unfolding consistent with hypertensive changes, but no lung lesions. Screening for HIV, HBsAg, HCV and VDRL were non-reactive. Ultrasonography showed an enlarged gall bladder with an ill-defined anterior wall echogenic mass with increased flow, measuring 5.0 x 4.4 cm with multiple filiform projections. Also noted were multiple ill-defined lesions in the liver and multiple peri-pancreatic, periportal and para-aortic lymph node enlargement. The impression was that of GB malignancy with multiple hepatic masses and intra-abdominal lymphadenopathy. A computed tomography

scan was done which revealed a moderately enhancing lobulated intraluminal GB mass, likely malignant. She received 2 units of blood, the plasma glucose level was brought under control using hypoglycaemic agents and she subsequently had cholecystectomy with a finding of a tumour involving the body, neck and infundibulum of the GB. The omentum and bowel loop were adherent to the GB. She was given antibiotics; analgesics and Intravenous fluid.

The resected gall bladder specimen was submitted for histopathological analysis. The gall bladder measured 11 x 8 x 4 cm and weighs 100 g. The wall is diffusely thickened and the cut section shows nodular lesion (figure 1). Histologic sections show well differentiated squamous cell carcinoma with keratin pearls formation clearly separated from mucin-secreting adenocarcinoma by a thick fibrous band (figure 2). She had fever and frequent passage of bloody/mucoid stools 3 days post-surgery. She also developed breathlessness which was consistent with features of pulmonary embolism. Her condition worsened and she died on day 6th day post-surgery.

DISCUSSION

GBCs are uncommon and are associated with a poor prognosis;[1] with an annual incidence of about 2/100,000 cases in the United States.[8] The Latin Americans and Asian continents have the highest prevalence of GBCs.[4] It accounts for 0.18% of cancer incidence in Nigeria.[6] It is known to be more frequent in women, with more than 90% of patients aged older than 50 years.[9]

GBC are categorized by their embryological origin: epithelial, mesenchymal, and neuroendocrine.[4] Although adenocarcinoma accounts for more than 85% of cases, other histologic subtypes include mucinous, signet ring, adenosquamous, squamous, small cell, mixed adeno-neuroendocrine and undifferentiated carcinomas.[1,3] SCC of the gallbladder is very rare.[1,3,7] even rarer is gall bladder CT. Collision tumour is the occurrence of two or more histologically distinct and clearly separated tumours in the same organ.[10] Although cases of gall bladder CTs have been diagnosed following advancement in imaging modalities and improved access to healthcare, the incidence is currently unknown.[11] Any of the histologic types, as well as tumours other than epithelial can form part of the collision. Few cases of gall bladder CTs including signet-ring cell cholangiocarcinoma and large-cell neuroendocrine gallbladder carcinoma, intracystic papillary neoplasm associated with adenocarcinoma and angiosarcoma, etc. have been reported in literatures.[12]

The index case is a collision of SCC and mucin-secreting adenocarcinoma in a 78-year-old Nigerian woman who presented with non-specific symptoms, including dyspepsia, and was thus managed over time as NSAID induced gastritis. At diagnosis, the tumour was noted to have involved the liver and multiple intraabdominal lymph nodes on CT scan. Definitive diagnosis of collision tumour was made on pathologic analysis of the resected specimen. The vague and non-specific symptoms of GBCs have been noted to delay diagnosis leading to late presentation at an advanced stage.[1] Pre-operative diagnosis of CTs are usually difficult; hence histology remains the mainstay for diagnosis. Given the rarity of gall bladder CTs, there are currently no guidelines for treatment.[4] The clinical behaviour, malignant potential, prognosis and management should therefore be guided based on the more aggressive tumour type.[4,13]

CONCLUSION

Although CTs are rare in the gall bladder, it is a possibility requiring thorough histopathologic evaluation for definitive diagnosis.

Conflict of interest: None

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