

## Signet ring carcinoma of stomach metastasizing to gallbladder: A case report

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### Abstract:

**Introduction:** Gallbladder metastasis is an extremely rare entity in clinical oncology. Malignant adenocarcinoma has been previously reported to be the commonest tumor metastasizing to the gallbladder. Few recent studies show that adenocarcinoma of the stomach commonly metastasizes to the gallbladder, other malignancies which can metastasize to the gallbladder are renal cell carcinoma, breast carcinoma and hepatocellular carcinoma (HCC).

**Case Report:** We present a case report of a 54-year-old lady who presented to us with right upper quadrant pain, ultrasonology revealed thick wall gallbladder with gravels in the gallbladder. Therefore, the patient was submitted for laparoscopic cholecystectomy. At operation, a lot of adhesions were found. Histopathology of the resected specimen revealed metaplasia with an increased nuclear cytoplasmic ratio with signet ring appearance. The patient was submitted for upper GI endoscopy which revealed a big ulcerative growth in the antrum of the stomach. Histopathology revealed signet ring adenocarcinoma of the stomach.

Total gastrectomy and gastrojejunostomy and chemotherapy were performed. The patient had a smooth recovery and remained free of metastasis for two years.

**Conclusion:** We conclude that metastasis to the gallbladder from adenocarcinoma of the stomach is rare. This case report is the third case report in the literature of signet ring cell gastric carcinoma metastasizing to the gallbladder. We also suggest to clinicians that all resected gallbladder specimens should be subjected to histopathology to avoid any mishap of missing a case of primary or metastatic tumor of the gallbladder, so that the patient can get appropriate management.

**Keywords:** Adenocarcinoma of stomach, signet ring pattern, total gastrectomy and gastrojejunostomy, metastatic gallbladder cancer, adjuvant chemotherapy

### Introduction:

Stomach carcinoma is a common malignancy, especially in Japan where a lot of smoked food is being consumed. We do see cases of stomach carcinoma in Saudi Arabia but they are uncommon.

We present a case of a 54-year-old female who presented in the emergency department of King Abdullah Hospital, Bisha, with a 1-week history of right hypochondriac pain and vomiting for the last 2 days. On examination, the patient was apyrexial with normal vitals. Her abdominal examination revealed mild tenderness present in the

hypochondrium. Ultrasound of the abdomen was suggestive of a thick-walled gallbladder with gravel in the gallbladder. The patient was taken to operation theatre and laparoscopic cholecystectomy was performed, and a lot of adhesions were found all around the gallbladder.

The patient had a smooth recovery and was allowed home 2 days after surgery. In the follow-up visit, the patient kept on complaining of pain in the right upper abdomen. Histopathology was suggestive of mild chronic inflammatory infiltrate, in addition, there was focal infiltration of the lamina propria, muscularis propria, and serosa by signet ring

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chords discohesive pleomorphic oval cells having eosinophilic cytoplasm with round to oval mildly enlarged pleomorphic vesicular nuclei with prominent nucleoli and increased nuclear/cytoplasmic ratio, scattered cells showing signet ring appearance. In conclusion focal most likely malignant metastatic infiltrate in the gallbladder found.

Patient is submitted for upper gastro intestinal endoscopy, which revealed a malignant lesion in the antrum of stomach. The histopathology revealed adeno-carcinoma with signet ring appearance.

Patient was reviewed by oncology board and after family was taken into confidence, patient was submitted to total gastrectomy and gastrojejunostomy. Patient has smooth post-operative recovery following operation. She received post-operative chemotherapy. She was sent home and kept under follow-up.

The patient remained alright till 2 years follow-up.

#### Discussion:

Metastasis to gallbladder is an unusual presentation of a tumour as a first site of recurrence in clinical oncology practice.<sup>1,2</sup> Gallbladder metastasis (GBM) is an extremely rare entity in and indicates a very poor prognosis.<sup>6</sup> Malignant melanoma has been reported previously to be the most common site of gallbladder metastasis.<sup>1,6,12</sup>

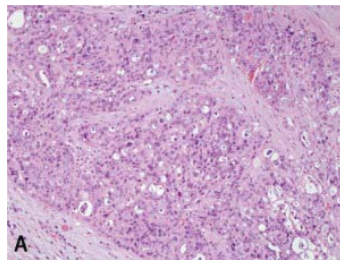


Figure 1: Showing histopathological appearance of signet-ring carcinoma of stomach metastasizing to gall bladder

Gallbladder metastasis secondary to malignant melanoma accounts for 30-60% of all metastatic lesions involving this the gall bladder.<sup>6</sup> In addition,

Gall bladder metastasis related with the other malignancies including renal cell carcinoma,<sup>2</sup> breast cancer<sup>7,8</sup> and hepatocellular carcinoma<sup>9</sup> has been documented in the literature in the form of single case reports.

Metastasis to the gall bladder originating from stomach cancer had not been reported until the study of Yoon et al.<sup>5</sup> They showed that only 8 cases of gall bladder Metastasis had arisen from gastric cancer. On the other hand, 7 patients had adenocarcinoma histology, while there was only 1 case with Signet ring gastric carcinoma.<sup>5</sup> Interestingly, the stomach was found to be the most common site of gall bladder metastasis in their analysis, in contrast to the literature.<sup>2,7,12</sup> In our case report we mentioned signet ring metastasis from stomach and our case report is unique as the gall bladder showed metaplasia and few signet ring cell and on searching we found signet ring adenocarcinoma of stomach. The study of Yoon et al<sup>5</sup> suggested that gall bladder is commonest site of metastasis for carcinoma stomach, this analysis could be due to the reason these sample size was small, and only Korean patients were included in the study, which may have influenced their results.

The patients with isolated gall bladder metastasis from the other malignancies generally present with obstructive jaundice if the tumor is located in the common bile duct or with upper abdominal pain mimicking symptomatic cholecystitis,<sup>4,10,11</sup> but asymptomatic cases were also reported.<sup>5,11</sup> Our patient presented with right upper abdominal pain and fever without obstructive jaundice; therefore, our patient was compatible with the literature. Because of a possible cholecystitis diagnosis, laparoscopic cholecystectomy was performed.

After operation gall bladder specimen findings were comparable histo-morphologically with signet ring gastric cancer, the diagnosis of gall bladder metastasis secondary to stomach cancer was made. The prognosis of gall bladder metastasis arising from malignant melanoma is very poor.<sup>6</sup> In the small series of Yoon et al,<sup>4</sup> they reported that the median survival after the diagno-

sis of gall bladder metastasis was 8.7 month

### Conclusion:

We conclude that metastasis to gallbladder from adeno-carcinoma of stomach is rare.

This report constitutes only the third case in the literature of signet ring cell gastric carcinoma metastasized to the gallbladder. We also suggests to clinicians that all resected gallbladder specimen should be subjected to histopathology to avoid any mishap of missing a case of primary or metastatic tumour of gall bladder so that appropriate management could be done as early as possible.

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### Role and contribution of authorsn

Dr Fayez Abdallah Al-Saffar conceive the idea collected and analyze the referencs and wrote the article.

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