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Synchronous gallbladder squamous cell carcinoma and adenocarcinoma, both as primary tumors in one patient

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ABSTRACT

INTRODUCTION: Synchronous primary carcinomas of gallbladder are extremely rare. In this paper, we report a case of double primary carcinomas in gallbladder

CASE REPORT: A 65 year old male was admitted to the hospital for surgical removal of gallbladder, which was diagnosed as cholecystitis in ultrasonography. Macroscopic examination disclosed a single whitish mass in gallbladder neck and another distinct mass in the fundus as wall thickening. Pathologic findings revealed squamous cell carcinoma of the neck and adenocarcinoma in the fundus.

DISCUSSION: This study represents an example of misdiagnosis. Being cautious is mandatory in order to manage the patient properly.

CONCLUSION: Synchronous primary carcinomas of gallbladder are rare. However this diagnosis should be taken into account in patients with cholecystitis features in order to seeking for the best surgical approach.

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1. Introduction

Gallbladder cancer is the fifth most common cancer of the gastrointestinal tract [1,2]. Histologically more than 90% of primary gallbladder cancers are adenocarcinomas. Other types of cancers, like squamous cell carcinoma are also seen [3–5]. But synchronous cancers of gallbladder are very rare. Rarity of this entity can be endorsed by the fact that only a handful of cases are documented [6,7]. To the best of our knowledge, less than 10 cases of synchronous double gallbladder cancer have been reported up to this time. We represent a case of Synchronous Gallbladder squamous cell carcinoma and adenocarcinoma, both as primary tumors in a 65 year old male patient which was recognized after cholecystectomy due to cholecystitis. This paper has been reported in line with SCARE criteria [8].

2. Case presentation

A 65 year old male presented with right upper quadrant abdominal pain which was initiated since 4 month ago. The pain radiated

to the epigastric area and upper abdomen and was associated with biliary colic, but no jaundice. Laboratory data were all in normal limits. He was admitted to surgery ward for cholecystectomy due to ultra-sonographic findings, which revealed findings consistent with cholecystitis. During operation, empyema with extensive adherence of gallbladder to the surrounding tissues and omentum were seen, precise gross evaluation on table by surgeon, disclosed gallbladder masses in neck and fundus which led to better examination of surrounding tissues such as liver and pancreas which were unremarkable, also lymphadenopathy was not found. Gross examination of the gallbladder by pathologist revealed a white-colored mass, measuring 3*2 cm in gallbladder neck and another mass in fundus, as wall thickening measured 5*3 cm (Fig. 1). Microscopic findings disclosed squamous cell carcinoma in gallbladder neck and adenocarcinoma in the fundus (Fig. 2), without any transitional areas between these two distinct masses. Additional twenty slices were taken which showed no association between these two tumors. Immunohistochemical staining for cytokeratin5/6(CK5/6) showed diffuse cytoplasmic staining with perinuclear enhancement (Fig. 3). Porta hepatitis lymph nodes showed reactive changes.

3. Discussion

Although gallbladder cancer is rare, it is the fifth most common cancer of the gastrointestinal tract [1,2]. Females are affected more than men with peak incidence in 6th and 7th decade of life [2,3]. Most of the patients are diagnosed incidentally through cholecys-

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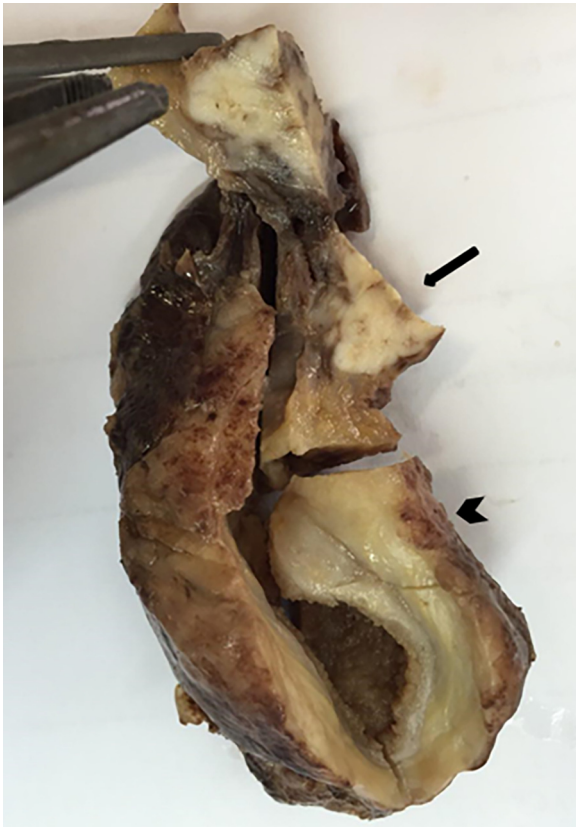


Fig. 1. Two distinct gallbladder masses, one in gallbladder neck (arrow) as squamous cell carcinoma, and the other in fundus (arrowhead) as adenocarcinoma.

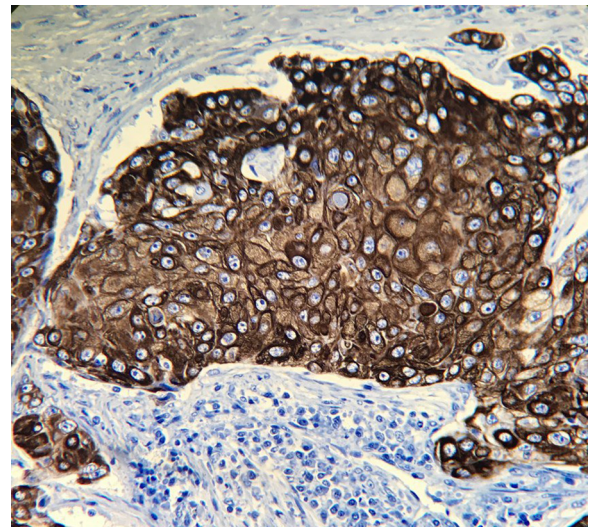


Fig. 3. Immunohistochemical staining for CK5/6 shows strong positive reactivity with diffuse cytoplasmic staining and perinuclear enhancement.

tectomy for cholecystitis or cholelithiasis, except those with high stages which causes symptoms [3,4]. Only 20% of the patients are diagnosed in early stages [5]. Histologically, approximately 90% are adenocarcinomas showing varying degrees of differentiation, and microscopic features of; adenosquamous carcinoma, clear cell and signet ring variant of adenocarcinoma, papillary carcinoma, lymphoepithelioma-like carcinoma, undifferentiated carcinoma and carcinoma with neuroendocrine features. The remaining 10% including; carcinoid tumor, oat cell carcinoma, melanoma,

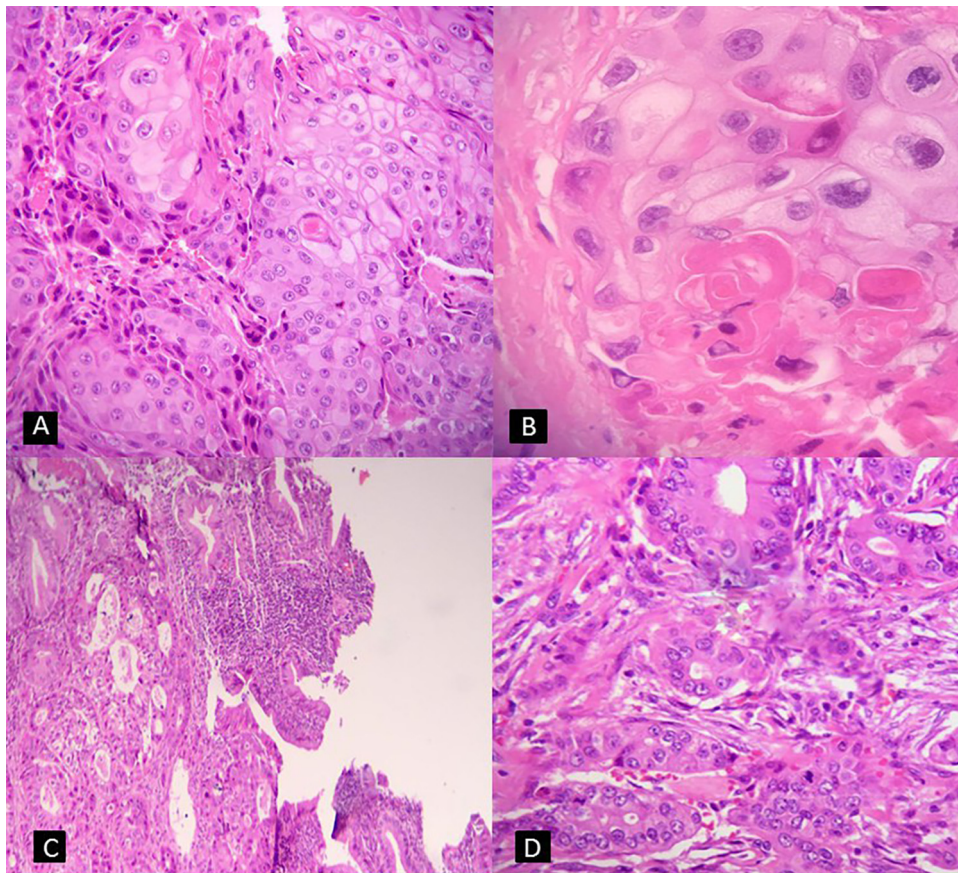


Fig. 2. (A) Well-differentiated squamous cell carcinoma in gallbladder neck (100* magnification), with (B) squamous cells and keratinous pearl (400* magnification), and (C) well-differentiated adenocarcinoma in fundus (40* magnification), with (D) gland formation (200* magnification).

lymphoma, botryoid variant of embryonal rhabdomyosarcoma, malignant fibrous histiocytoma, leiomyosarcoma, angiosarcoma [9–16] and pure squamous cell carcinoma, which is extremely rare [17]. Multiple primary malignant neoplasms (MPMN) can be seen in different organs, But primary synchronous cancers in the gallbladder are extremely rare [18–21]. Synchronous cancers are which occur simultaneously or during 6 months from the diagnosis of the first cancer. Moertel et al. classified synchronous cancers in 4 categories; 1) multiple neoplasms within same organ 2) in bilaterally paired organs 3) in anatomically different organs 4) With a lesion of a different organ or tissue [18]. Differentiating between synchronous cancer and metastasis is crucial. hence, we use criteria which were established by Warren et al. in 1981 and Gertsch et al. in 1990, these criteria include; growth pattern, histologic differences between two tumors and lack of anatomical continuity between them [7]. In our case, both tumors in gallbladder, adenocarcinoma and squamous cell carcinoma, are geographically distinct as is obvious grossly (Fig. 1), also no association is found microscopically in multiple sections between these two tumors. We use immunohistochemistry staining for CK5/6 for confirmation of the diagnosis of squamous cell carcinoma, as CK5/6 is nearly always positive in squamous cell carcinoma but negative in adenocarcinoma [22]. To the best of our knowledge synchronous double primary tumors of gallbladder has not been mentioned in the literature previously. In most of the case reports, the origin of synchronous tumor of gallbladder is within other sites such as extra hepatic bile duct, liver, stomach and pancreas.

Conflicts of interest

There isn't any conflicts of interest.

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Ethical approval

Patient signed the written paper in which he stated that he allows us to publish his photos and illness, The study was approved by the ethic committee of the Tabriz university of medical science (Registration number 2017/64).

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Author contribution

Amir Vahedi: Study design, diagnosing the case as a pathologist.
 Mahzad Azimpouran: Study design, writing the paper, data collection, critical revision and immunohistochemical interpretation.
 Ali Ghavidel: clinical physician of patient who manages the disease.
 Mahsa Karbasi: interpreting ultra sonographic and CT-scan findings, data collection and critical revision.
 Mehrdad Farhadi: slide preparation and immunohistochemical staining.

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Guarantor

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