

## Cytopathological Correlation of a Primary Squamous Cell Carcinoma of Gall Bladder Locally Invading the Liver- A Case Report

Dr Shambhavi<sup>1</sup>, Dr Prachi Hansdah<sup>2</sup>, Dr Ratna Choudhary<sup>3</sup>

<sup>1</sup>Junior resident, Department of Pathology, RIMS, Jharkhand

<sup>2</sup>Junior resident, Department of Pathology, RIMS, Jharkhand

<sup>3</sup>Professor, Department of Pathology, RIMS, Jharkhand

**Abstract:** Primary carcinoma of gall bladder ranks as a sixth most common malignancy of gastrointestinal tract with poor prognosis. Adenocarcinoma accounts for 75-85% of gall bladder carcinoma. Squamous cell carcinoma constitute 1% of all malignant tumor in gall bladder. Primary squamous cell carcinoma of gall bladder has rarely been diagnosed by aspiration cytology. Here, we present a case of a 54 year suffering from abdominal pain complaint who underwent ultrasound guided fine needle aspiration cytology and was diagnosed as squamous cell carcinoma of gall bladder. The diagnosis was confirmed on subsequent histopathological examination with invasion into adjacent liver. Histogenesis and biological behavior of squamous cell carcinoma of gallbladder remains a matter of debate but the role of aspiration cytology in diagnosing these lesions cannot be undermined.

**Key Words:** Squamous cell carcinoma, Gallbladder, Fine-needle aspiration cytology, liver, invasion

Date of Submission: 29-04-2020

Date of Acceptance: 13-05-2020

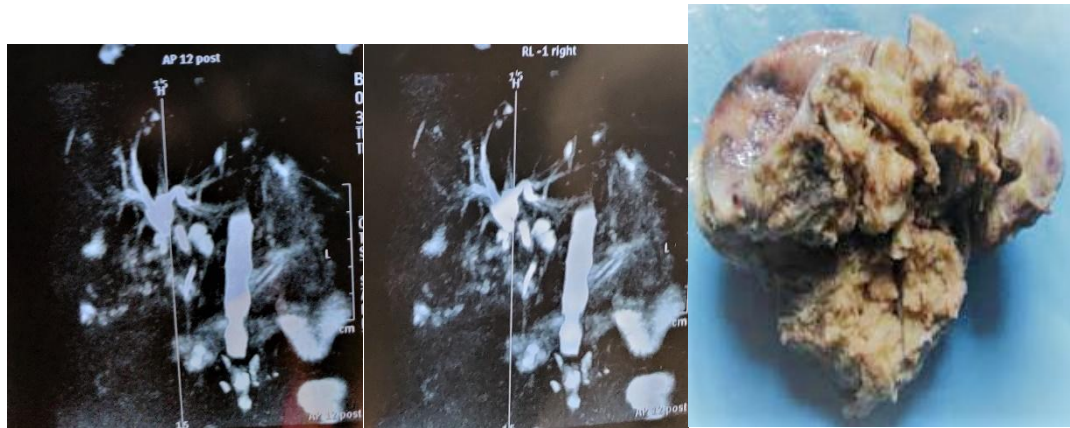
### I. Introduction

Primary carcinoma of gall bladder ranks as a sixth most common malignancy of gastrointestinal tract with poor prognosis<sup>[1]</sup>. It is diagnosed incidentally due to the vague symptoms. Adenocarcinoma (AC) remains the most common type of gallbladder cancer, followed by adenosquamous carcinoma (ASC) and squamous cell carcinoma (SCC). Squamous cell carcinoma constitute 1% of all malignant tumor in gall bladder<sup>[1]</sup>. If diagnosed early, surgical resection could potentially provide curative treatment. Here, we report a rare case of a SCC diagnosed by fine needle aspiration cytology (FNAC) in which the subsequent histopathology showed a SCC with invasion into adjacent liver.

### II. Case Presentation

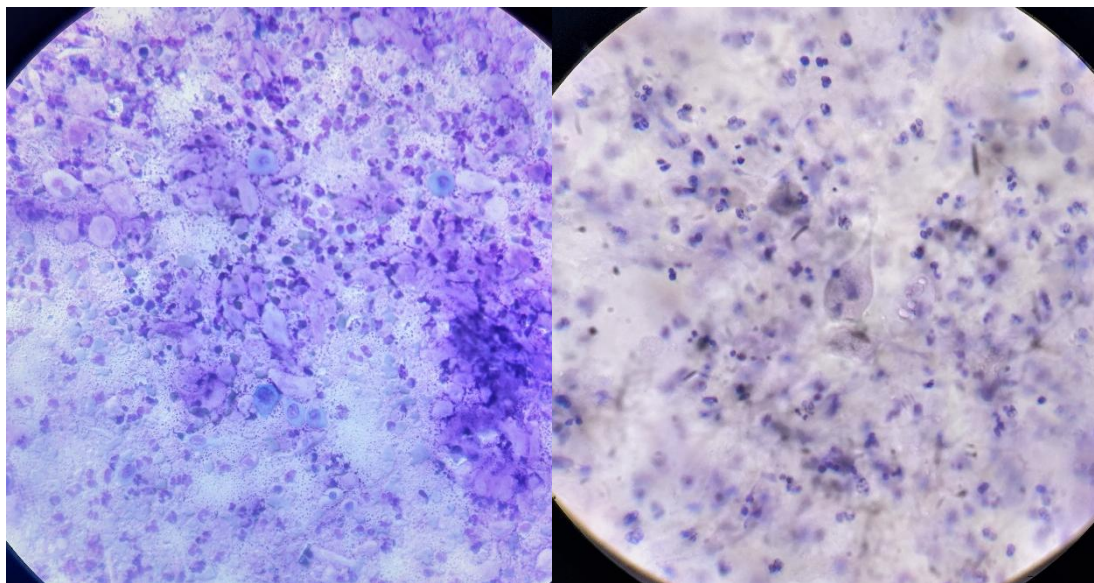
A 54 year old female, presented to the surgical outpatient department with complaints of pain abdomen, anorexia and vomiting since one month. On examination, patient was pale but non icteric and she had associated significant weight loss. On deep palpation, there was a small palpable lump in the right hypochondrium that was tender. Laboratory testing showed a hemoglobin level of 10gm/dl with an ESR of 20 mm in the 1st hour. White cell count of 9,900 per cubic milliliter, and normal liver function tests, including aspartate transaminase (AST), alanine aminotransaminase (ALT), total bilirubin, and hepatitis panel mass. Ultrasound (US) of abdomen showed gall bladder could not be visualized. It is suggestive of gall bladder calculus with gall bladder mass or hepatic mass and dilated common bile duct. Magnetic Resonance cholangiopancreatography showed gall bladder not clearly delineated with 11mm hypointense filling defect. Altered signal intensity in segment VIII of liver hyper on T2 in the vicinity of lesion. It is suggestive of infiltrative gall bladder carcinoma with cholelithiasis. (See Fig. 1)

A ultrasound guided FNA was done of GB mass and smears were stained with papanicolaou and leishmangiemsa. A cytological diagnosis of SCC of gall bladder was given with an advice of urgent histopathological examination. After one month cholecystectomy along with wedge resection of adjacent liver tissue was done and was sent to pathology department for histopathological examination. Grossly, the GB was already cut open and measured about 8×5×4 cm with wall thickness of 3 cm. There was a presence of irregular cauliflower like mass measuring 4.5×4×3 cm. (See Fig. 2). The adjacent liver tissue appeared brownish and measuring 3×3×1.5 cm.



**(Fig. 1)(Fig. 2)**

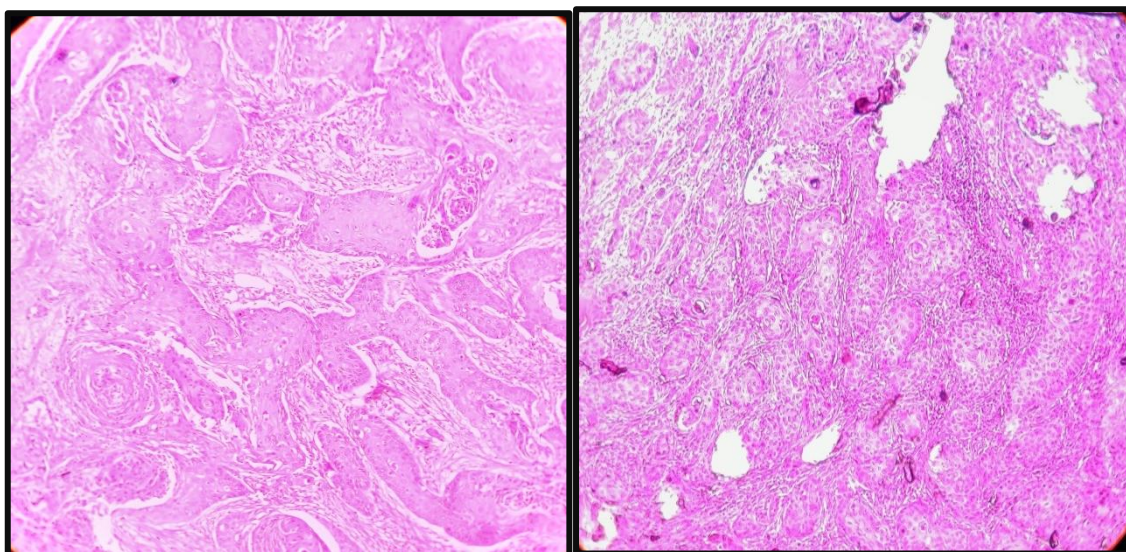
Ultrasound guided fine needle aspiration cytology of GB showed SCC. (Fig. 3)



**(L&G)(Fig 3)**

**(Pap)**

The histopathological examination showed presence of a well differentiated SCC of GB (See Fig. 4), invasion upto serosa. Lymphovascular emboli seen and perineural invasion by tumor cells seen. Infiltration of tumor cells into adjacent liver seen (See Fig. 5). All lymph node were negative. Even on sampling the entire specimen, we could not get any foci of adenocarcinoma. A final diagnosis of pure SCC of GB with metastasis to adjacent liver was made. However, our patient refused any chemoradiotherapy and also did not turn up for follow up.



(Fig. 4) (10x magnification)(Fig. 5)

### III. Discussion

Squamous cell carcinoma (SCC) of the gallbladder is an extremely rare type of gallbladder carcinoma with a poor prognosis [2]. However, if identified at an early stage without distant spread, a potentially curative resection can be performed. In this case, SCC of the gallbladder showed local invasion into the adjacent liver (segment VIII) with no distant metastases. Gallbladder carcinomas can be divided into pure squamous cell carcinoma (SCC), adenosquamous (ASC), or adenocarcinoma (AC). Squamous differentiation is a term used when there is some component of squamous metaplasia with predominant adenomatous component [3]. Chronic irritation of the gallbladder due to gallstones increases the risk of gallbladder carcinoma [4], as was likely in this case. SCC of the gallbladder usually occur in the fourth to sixth decade of life with a male: female ratio of 3:1 [5,6]. They have been associated with rapid growth, widespread infiltration and metastasis [7,8]. Muto et al in their study of 1,000 resected gallbladders did not find any evidence of squamous metaplasia in GB. They hypothesized that the malignant process starts as adenocarcinoma, and then squamous metaplasia of adenocarcinoma occurs after which the squamous cell carcinoma overgrows the adenocarcinoma part to form a pure SCC [9]. In our case, we found the normal columnar epithelium of GB directly adjacent to squamous epithelium giving way to squamous cell carcinoma with no intervening foci of adenocarcinoma. The surgical options of SCC of gallbladder consist of cholecystectomy with resection of a wedge of adjacent liver tissue or direct liver resection along with regional lymphadenectomy and skeletization of the hepatic hilum [5,10]. Cytologic diagnosis of gallbladder malignancies by FNA has become common due to accessibility of imaging techniques like ultrasound (US) and computed tomography (CT). Here, we describe an extremely rare case of pure well differentiated SCC of gallbladder diagnosed by FNAC. Local invasion to liver in this case of SCC of GB was another interesting finding. The extent of the tumor at the time of diagnosis is the most important determinant of survival and the majority of the patients die around six months after diagnosis when radical surgery is not performed [5,6,10,11]. However, our patient refused any chemo-radiotherapy and also did not turn up for follow-up.

In conclusion, the histogenesis of SCC in gallbladder has been an enigma for years. Our case suggests that squamous metaplasia followed by dysplasia may ultimately give rise to SCC of gallbladder and reemphasizes the fact that imaging assisted FNAC of gallbladder mass appears to be an important tool in diagnosing these rare tumors with sufficient accuracy.

### Reference

- [1]. J.I. Mills, Stacey E., editor. II. Greenon, Joel K., editor. III. Hornick, Jason L., editor. IV. Longacre, Teri A., editor. V. Reuter, Victor M., editor. VI. Title: Diagnostic surgical pathology : 3728,3735
- [2]. Albores-Saavedra J, Henson DE, Sobin LH: The WHO Histological Classification of Tumors of the Gallbladder and Extrahepatic Bile Ducts. A commentary on the second edition. *Cancer*. 1992, 70:410–14. 10.1002/1097-0142(19920715)70:2<410::AID-CNCR2820700207>3.0.CO;2-R
- [3]. Roa JC, Tapia O, Cakir A, et al.: Squamous cell and adenosquamous carcinomas of the gallbladder: clinicopathological analysis of 34 cases identified in 606 carcinomas. *Mod Pathol*. 2011, 24:1069–78. 10.1038/modpathol.2011.68
- [4]. Randi G, Franceschi S, La Vecchia C: Gallbladder cancer worldwide: geographical distribution and risk factors. *Int J Cancer*. 2006, 118:1591–602. 10.1002/ijc.21683
- [5]. Karasawa T, Itoh K, Komukai M, Ozawa U, Sakurai I, Shikata T. Squamous cell carcinoma of gallbladder-report of two cases and review of literature. *Acta Pathol Jpn*. 1981;31:299-308.

*Cytohistopathological Correlation of a Primarysquamous Cell Carcinoma of Gall Bladder Locally ..*

- [6]. Hanada M, Shimizu H, Takami M. Squamous cell carcinoma of the gallbladder associated with squamous metaplasia and adenocarcinoma in situ of the mucosal columnar epithelium. *ActaPatholJpn*. 1986;36:1879-86.
- [7]. Roppongi T, Takeyoshi I, Ohwada S, Sato Y, Fujii T, Honma M, Morishita Y. Minute squamous cell carcinoma of the gallbladder: A case report. *Jpn J ClinOncol*. 2000;30:43-5.
- [8]. E dmondson HA. Tumors of the Gallbladder and Extrahepatic Bile Ducts. In: *Atlas of Tumor Pathology, Fasc. 26*. Washington, DC: Armed Forces Institute of Pathology; 1967. 26-66.
- [9]. Muto Y, Uchimara M, Waki S, Hayashi T, Samejima K, Okamoto K. Clinicopathologic study of adenosquamous carcinoma of the gall bladder and bile duct. *Jpn J Cancer Clin*. 1982;28:440-4.
- [10]. Miyazaki K, Tsutsumi N, Kitahara K, Mori M, Sasatomi E, Tokunaga O, Hisatsugu T. Hepatopancreatoduodenectomy for squamous and adenosquamous carcinoma of the gallbladder. *Hepato-Gastroenterol*. 1995;42:47-50.
- [11]. Khaira HS, Awad RW, Thompson AK. Squamous cell carcinoma of the gallbladder presenting with a biliary-colic fistula. *Eur J SurgOncol*. 1995;21:581-2.

Dr Shambhavi, et. al. "Cytohistopathological Correlation of a Primarysquamous Cell Carcinoma of Gall Bladder Locally Invading the Liver- A Case Report." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(5), 2020, pp. 17-20.