E-ISSN: 2616-3470
P-ISSN: 2616-3462

www.surgeryscience.com
2023; 7(2): 49-52
Received: 20-01-2023
Accepted: 23-02-2023

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A rare case of ciliated foregut cyst of gall bladder

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DOI: https://doi.org/10.33545/surgery.2023.v7.i2a.996

Abstract
The ciliated cysts are a rare congenital lesion developed from the primitive anterior intestine. The ciliated cysts essentially supra-diaphragmatic and located in the bronchial tree, the esophagus, the mediastinum and sublingual. When the cyst is infra diaphragmatic, it's usually located in the liver especially in medial segments (IV, V, VIII). It can be located in the pancreas as well. It's location in the gall bladder is exceptional. Many a times it's a incidental finding. Cystic lesion in gallbladder needs to be operated for symptomatic relief as well for histopathological diagnosis.

Keywords: Ciliated cyst, Gall bladder, Foregut cyst

Introduction
Cystic lesion of the gall bladder is uncommon and benign cystic lesion of gall bladder is also very rare [2]. Primitive foregut who is the origin of the oropharynx, the branchio-pulmonary tractus, the esophagus, the stomach, the duodenum, the liver, bile ducts and the pancreas. Ciliated foregut cysts (CFCs) are rare masses that develop from the tissue mass which remain from embryological foregut development. CFCs commonly seen supradiaphragmatic located in bronchial tree and esophagus. When found infra-diaphragmatic usually located in liver [3] and pancreas. Extrahepatic or cystic lesion of gall bladder is extremely rare [4]. Extrahepatic cyst can have varied clinical presentation such as pain in right upper quadrant, jaundice, vomiting or found incidentally. Sometimes it mimic as choledochal cyst. We are Reporting and review of literature on foregut cyst of gall bladder.

Case
A 30-year-old female presenting in outpatient department with complaints of pain in abdomen in right upper quadrant and vomiting on and off. On examination tenderness in right upper quadrant with Murphy's sign were present, no rebound tenderness found, no palpable lump or visible icterus. Laboratory examination shows normal total leukocyte count, biliary enzymes, bilirubin levels, and tumor markers. On abdominal ultrasonography 1.9x1.4x1.3 cm cystic lesion in gallbladder adjacent to cystic duct region of gall bladder, Gall bladder is well distended and wall thickness is normal. MRCP shows thin-walled cystic lesion closely abutting neck of Gall bladder not seen separate from neck of Gall bladder [Fig 1]. On Laparoscopic Cholecystectomy Gall bladder is well distended with cystic lesion found at neck of Gall bladder [Fig 2]. Grossly unilocular cystic lesion at neck of Gall bladder no communication between cyst and Gall bladder lumen found [Fig 3]. Histopathological examination shows low power (10x) shows thin walled covered with cylindrical ciliated mucus secreting epithelium which lays on connective tissue containing smooth muscle fibers [Fig 4]. High power view (40x) shows cyst wall containing mucus secreting ciliated columnar epithelium [Fig 5]. These findings are suggestive of foregut cyst of Gall bladder.

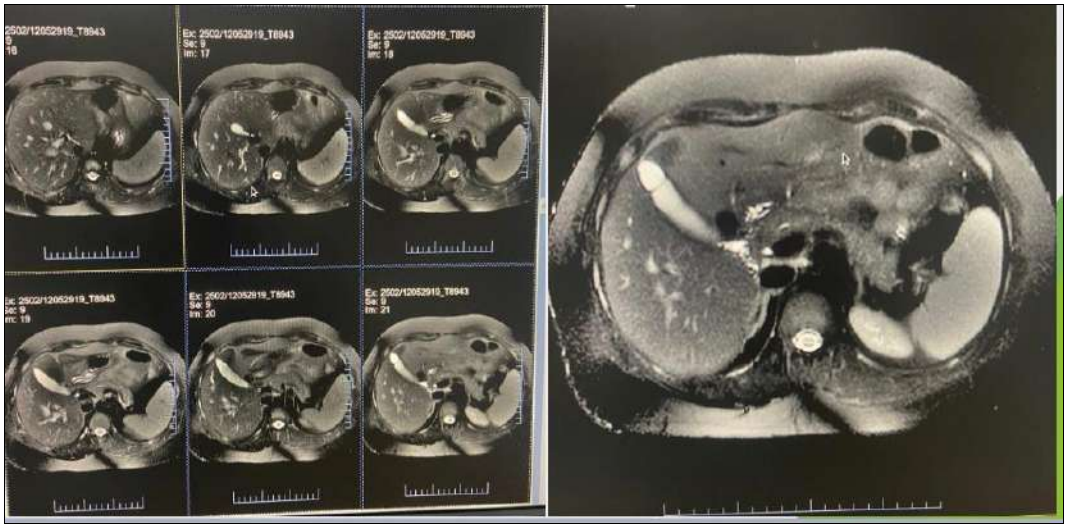

Fig 1: MRCP shows thin-walled cystic lesion closely abutting neck of gall bladder not seen separate from neck of gall bladder? Anatomical variation

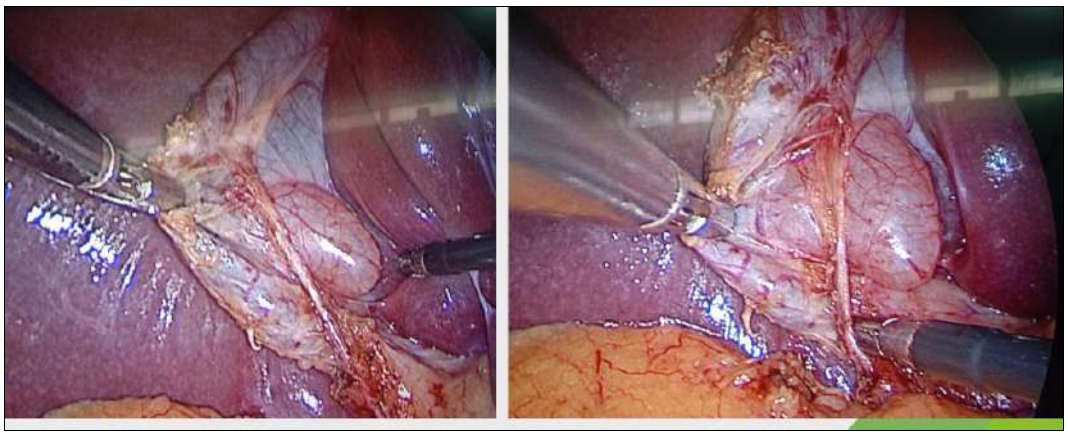

Fig 2: Laparoscopic images of gall bladder with cystic lesion on neck

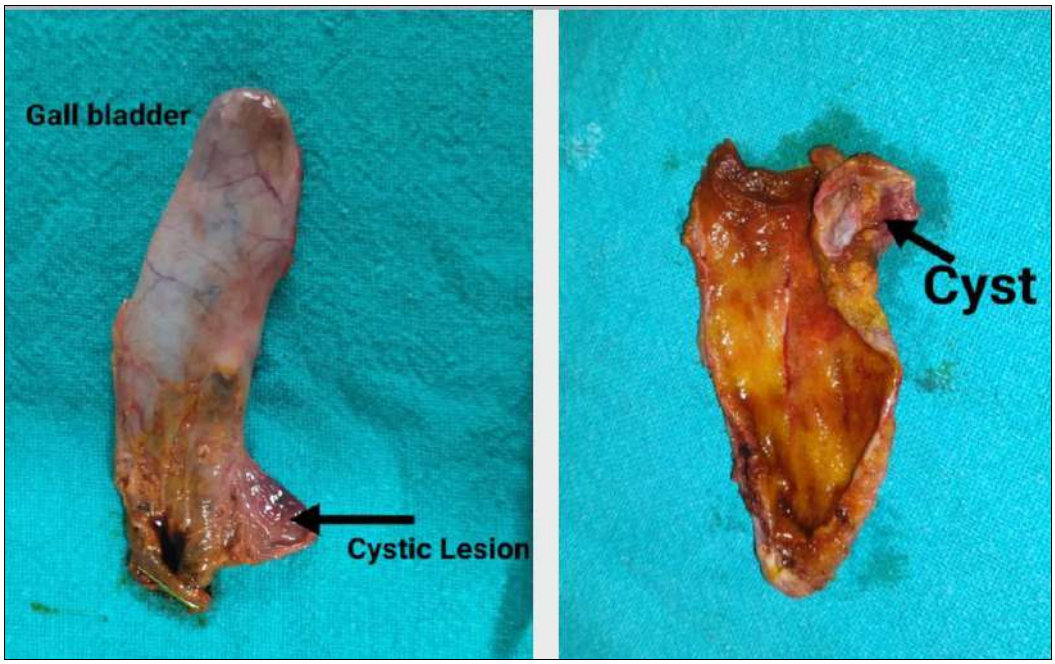

Fig 3: Gross specimen showing thin walled cyst at neck of gall bladder

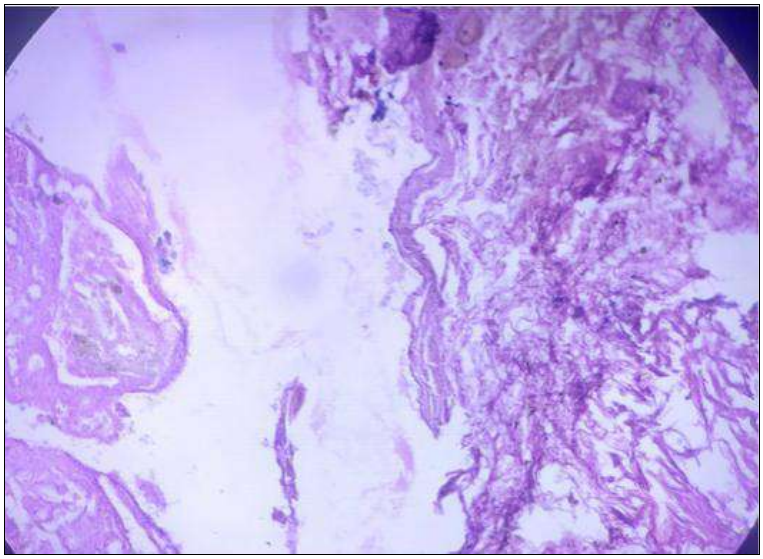

Fig 4: Low power 10x showing cyst wall

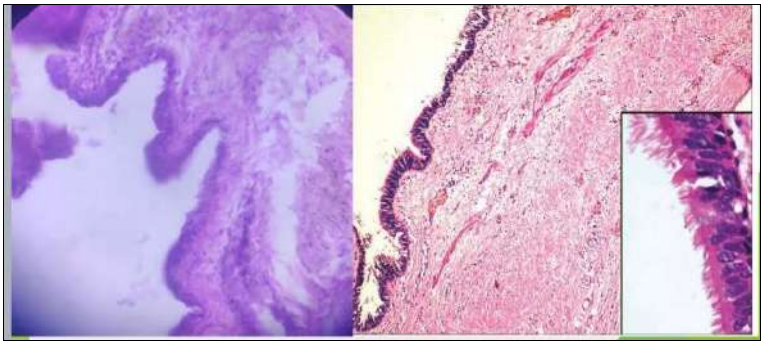

Fig 5: High power 40x shows cyst wall containing mucus secreting ciliated columnar epithelium

Author	Year	Sex/Age	Presenting symptoms	Location	Locularity	Lining cells of cyst
Nam *et al.* [9]	2000	F/36	Incidental	Fundus	Unilocular	Psuedostratified ciliated columnar epithelium with few goblet cells
Hirono *et al.* [7]	2002	F/43	Incidental	Collum	Unilocular	Psuedostratified ciliated columnar epithelium
Muraoka *et al.* [3]	2003	F/37	Incidental	Corpus	Unilocular	Psuedostratified ciliated columnar epithelium with interspersed mucin producing columnar epithelium
Bulut and karayalcm [5]	2010	F/41	RUQ pain	Collum	Unilocular	Psuedostratified ciliated columnar epithelium with few goblet cells
Tuncyurek *et al.* [2]	2013	F/42	RUQ pain	Corpus	Unilocular	Psuedostratified ciliated columnar epithelium and single layer of columnar epithelium
Giakoustidis *et al.* [6]	2014	F/29	Epigastric pain	Neck	Unilocular	Psuedostratified ciliated columnar epithelium
Hawang I ,cho J *et al.* [1]	2015	F/39	RUQ pain	Neck	Unilocular	Single layer ciliated cuboidal or columnar epithelium with many goblet cells
Farrugia A, Blazic I *et al.* [10]	2017	78/M	Incidental	-	-	-
Present case	2021	F/30	RUQ pain and vomiting	Neck	Unilocular	Cylindrical ciliated mucus -secreting epithelium

Discussion

The ciliated cysts are a rare congenital lesion developed from the primitive anterior intestine. There are many hypotheses that describes the pathogenesis of ciliated cysts. Kakitsubata described in 1995 the first case of gallbladder cyst who was covered with cylindrical ciliated epithelium and he named it "Epithelial cyst of the gallbladder" [8]. In 2000, another case was reported by Nam under the title of "Ciliated foregut cyst of the gallbladder" [9]. Infradiaphragmatic foregut cyst usually found in liver, pancreas its location in gall bladder is very rare. Most frequent location in gall bladder is neck. On reviewing of previous literature ciliated foregut cyst is found common in women's than men's in ratio of 2:1. Median age is 45yr old with extreme ages of 9-75yrs old. The median size of cyst is 2.5cm with extremes of 0.7-3.5cm. Patients usually presents with right upper quadrant pain and vomiting similar as cholecystitis or found incidentally, differentials of benign or malignant cystic lesions including duplication cysts, biliary cystadenoma, cystadenocarcinoma, cystic gastric heterotopias, cystic duct cyst and cystic lymphangioma, dilated rokitansky-aschoff sinuses, adenomyomatosis. Ciliated foregut cyst in extrahepatic biliary tree may mimic as a choledochal cyst and cause intermittent obstruction is biliary tracts. Ciliated foregut cyst is a histopathological diagnosis therefore excision is done in bone benign and malignant cyst of Gall bladder. There is no communication found in cyst and Gall bladder lumen on gross

examination. In histopathological examination cystic lesions is characterized by thin wall covered with a cylindrical ciliated mucus secreting epithelium which lays on connective tissue containing smooth muscular fibers. There are possibilities of squamous metaplasia in ciliated foregut cysts and few reports of squamous cell carcinoma in ciliated foregut cysts however no reports of squamous cell carcinoma of ciliated foregut cyst in gall bladder.

Acknowledgement
Not available

Author's Contribution
Not available

Conflict of Interest
Not available

Financial Support
Not available

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How to Cite This Article
Ghanghoria A, Gurjar R, Brahamane A, Garg G A rare case of ciliated foregut cyst of gall bladder. International Journal of Surgery Science 2023; 7(2): 49-52