Suspected Large Gall Bladder Mucocele Extending from Right Hypochondrium Up to Right Iliac Region Turned Out to be Gall Bladder Perforation in a Schizophrenic Patient: A Rare Case Report and Literature Review

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May 06, 2024

Introduction:

The spectrum encompassing gall bladder (GB) pathology spans benign distensions to catastrophic perforations, intricately challenging clinicians in diagnostic discernment. A singular, infrequent clinical occurrence, initially misconstrued as an extensive GB mucocele, unveiled an unforeseen GB perforation within a patient grappling with schizophrenia. This intricate interplay accentuates the formidable intricacies and inherent complexities ingrained within the domain of diagnosing hepatobiliary disorders.

The gall bladder, an important component of the biliary system, orchestrates bile storage and concentration, rendering it susceptible to a range of pathological changes [1]. GB mucoceles, which are characterized by an abnormal deposit of thicker mucoid material within the gall bladder lumen, are rare events that may be confounding due to their varied clinical presentations [1,2]. In this case, the identification of a GB perforation amid a probable mucocele emphasizes the rarity and intricacy of such cases. Schizophrenia, a chronic mental illness characterized by abnormalities in cognitive processes, perceptions, and emotional responses, adds another degree of intricacy to the diagnosis procedure [3]. Patients suffering from mental illnesses may exhibit abnormal or disguised physical symptoms, complicating expert assessments and perhaps restricting the correct diagnosis [2,4]]. The link between mental illnesses and physical afflictions continues to present difficulties for healthcare practitioners, necessitating a detailed and discerning approach to diagnosing concealed or unusual conditions. This case has a lot of intriguing clinical inconsistencies.

Despite the absence of classic GB pathological symptoms such as stomach pain and fever, the patient's statement of constant nausea and post-oral intake vomiting generated suspicion of a large GB mucocele. Following imaging modalities, including ultrasound and contrast-enhanced computer tomography, this tentative diagnosis was confirmed, revealing a large cystic lesion reaching from the right hypochondrium to the right iliac fossa, indicating a substantial GB mucocele. The patient's history of treated filariasis and the patient's ongoing mental diagnosis of schizophrenia complicated the decision-making process even more. These diverse medical situations, together with the lack of obvious clinical indications, created a diagnostic puzzle that required a comprehensive and thorough examination. The surprise finding of a mucocele during an emergency laparotomy highlights the deceptive nature of certain clinical manifestations within the hepatobiliary domain.

The intraoperative discovery of a 1*1 cm GB hole on the right lateral wall of the GB fundus revealed an unexpected and significant deviation from the hypothesized pathogenesis. This case is noteworthy because it exemplifies the complex interplay between clinical reasoning, atypical symptoms, and the diagnostic enigmas inherent in hepatobiliary sickness. It emphasizes the critical role of attention, comprehensive assessments, and consideration of uncommon etiologies in achieving a proper diagnosis amid complex medical descriptions.

Case Presentation :

Case History/ Examination: A 70-year-old female, referred to our institution from a district hospital, presented with a month-long history of nausea and vomiting immediately following ingestion of oral liquids and semi-solids. Absent were complaints of abdominal pain or fever. Known for schizophrenia under regular treatment for five years and with a past medical history of treated filariasis in the left lower limb four decades ago (Figure 1), she had no record of diabetes mellitus, tuberculosis, or asthma, and no prior abdominal surgeries. A physical examination revealed a soft, non-tender, non-distended abdomen with a palpable, firm lump spanning from the right hypochondrium to the right iliac fossa (RIF) (Figure 2).

Methods: Imaging studies, including ultrasound and contrast-enhanced computer tomography (CECT) of the abdomen, indicated a significant, lobulated, multiloculated cystic lesion measuring (19 x 5.8 x 3) cm and approximately 120 ml in volume (Figure 3 and 4).

This lesion was observed abutting the inferior and medial surfaces of the liver, extending to the RIF region, with minimal fat stranding on its anteromedial aspect, leading to a provisional diagnosis of a large GB mucocele (Figure 3 and 4). Laboratory investigations were largely unremarkable, with a total leukocyte count (TLC) of 15,000 cells/mm3 and hemoglobin (Hb) levels at 10.9 g/dl. Initially scheduled for USG-guided percutaneous pigtail drainage (cholecystostomy), deteriorating hemodynamics necessitated an emergency laparotomy under general anesthesia. Intraoperatively, a GB perforation approximately 11 cm in size was discovered on the right lateral wall of the fundus, accompanied by an organized intraperitoneal collection tracking inferiorly from the GB along the right-sided greater omentum up to the RIF region (Figure 5 and 6). Surgical intervention included peritoneal lavage (Figure 7) with adhesiolysis and a left-sided abdominal drain placement.

Conclusion and Result: Subsequently, the patient was transferred to the ICU in an intubated state and remained on ventilatory support until succumbing on post-operative day 3 (POD 3).

Discussion:

GB mucocele and perforation represent infrequent yet critical complications within GB disorders, demanding prompt diagnosis and intervention to avert life-threatening consequences [1]. While their etiology and pathogenesis remain partly understood, the obstruction of the cystic duct or GB neck by gallstones, sludge, or inflammation is implicated, leading to elevated intraluminal pressure, ischemia, necrosis, and eventual GB wall rupture. Predisposing factors encompass advanced age, female gender, diabetes, obesity, fasting, total parenteral nutrition, trauma, surgery, infection, and immunosuppression [1,2].

This intricate case emphasis the interplay among atypical clinical presentations, psychiatric comorbidities, and diagnostic ambiguities in hepatobiliary disorders. Commencing with a 70-year-old female with schizophrenia exhibiting unconventional persistent nausea and vomiting post-oral intake, the departure from classical GB symptomatology steered initial suspicions toward a large GB mucocele. Imaging findings supporting this hypothesis indicated a significant cystic lesion spanning the right hypochondrium to the right iliac fossa.

The coexistence of schizophrenia introduces complexities known to obscure or alter somatic symptom expression, challenging the diagnostic process. The absence of classical GB symptoms in a patient with schizophrenia underscored the complexities of hepatobiliary disorder diagnosis, necessitating a nuanced evaluation within the context of psychiatric comorbidities.

While ultrasound and contrast-enhanced computer tomography provided insights endorsing the initial suspi-

cion of a large GB mucocele, limitations in unequivocally delineating complex GB pathologies emerged. The subtle differentiation between a mucocele and perforation emphasized the need for refined imaging protocols or adjunctive diagnostic modalities to enhance precision.

Surgical exploration during an emergency laparotomy revealed a surprising GB perforation, deviating from the expected mucocele diagnosis.

The convergence of atypical GB pathology, challenges from psychiatric comorbidities, and diagnostic uncertainties necessitate a comprehensive, astute, and multidisciplinary clinical approach. Scrutiny of differential diagnoses and surgical decisions, particularly in patients with unconventional presentations, mitigates diagnostic pitfalls and ensures timely interventions.

GB mucocele and perforation present diverse clinical manifestations and complications contingent upon perforation extent, location, and peritonitis type [3]. Mucocele often manifests as chronic right upper quadrant pain, jaundice, fever, and palpable masses, while perforation usually presents acutely or subacutely with abdominal pain, peritonitis, shock, and sepsis [1,4]. These complications encompass bile peritonitis, abscess formation, fistulae, bowel obstruction, liver damage, and mortality, differentiating mucocele and perforation from other GB disorders in severity, prognosis, and management [2,5].

The treatment and outcome of GB mucocele and perforation include surgical and medicinal approaches aimed at controlling the infection, draining the bile, and removing the GB [2,6]. Depending on the kind and degree of the perforation, surgical techniques include open or laparoscopic cholecystectomy with or without peritoneal cavity draining [7]. Antibiotics, fluid resuscitation, and supportive care are all part of the medical treatment [7]. The prognosis of GB mucocele with perforation varies according to the patient's age, comorbidities, as well as the timing and quality of treatment. The mortality rate linked to GB mucocele and perforation spans between 10% and 30%, with morbidity rates fluctuating from 20% to 50% [1, 2, 5].

The impact of schizophrenia on somatic symptom perception and expression, along with the complexities surrounding diagnosis and treatment for individuals with both schizophrenia and somatic diseases, constitutes a multifaceted landscape. Schizophrenia, characterized by chronic and severe cognitive, emotional, and behavioral disruptions, significantly impacts an individual's cognitive faculties, potentially hampering their recognition and communication of somatic symptoms due to cognitive deficits, negative symptoms, or psychotic manifestations like delusions, hallucinations, or paranoia [8]. Additionally, schizophrenia may modulate the onset and course of somatic ailments owing to various factors such as antipsychotic medications, lifestyle elements, or concurrent mental health conditions like depression, anxiety, or substance use disorders [9]. Addressing and managing somatic conditions in individuals grappling with schizophrenia necessitates a comprehensive and multidimensional approach [8, 9].

Initiating a robust patient relationship and cultivating trust serve as the foundational steps in fostering an environment conducive to eliciting a comprehensive somatic symptom history. This involves meticulous exploration of the temporal correlation between these symptoms, mental manifestations, and pharmaceutical utilization [10]. Additionally, a meticulous physical examination, coupled with pertinent laboratory and imaging analyses, assumes paramount importance. These procedures fulfill a dual role by confirming or negating somatic ailments while excluding alternative sources of somatic symptoms, such as medication side effects, substance dependencies, or somatic misperceptions [10]. Collaboration among a multidisciplinary team comprising psychiatrists, physicians, nurses, and social workers is crucial. This collaborative synergy enables a comprehensive and synchronized approach to patient care, holistically addressing both the physical and psychological facets of their condition [1, 4, 6].

Moreover, educating both the patient and their family about the intricacies of physical and mental disorders, encompassing potential interactions and challenges, stands as a pivotal step in managing these intricate comorbidities. Furthermore, the selection of an optimal treatment modality mandates a detailed evaluation of the merits and demerits of each approach [5, 6, 8]. Continuous monitoring of the patient's response to treatment, adherence to medication protocols, and making essential adaptations are integral and ongoing facets of patient care. Finally, extensive psychological support and rehabilitation are provided in addition

to the treatment regimen, with the goal of improving the patient's quality of life, functional abilities, and overall recovery trajectory.

This holistic approach seeks to fulfill the patient's many needs, aiming for comprehensive treatment that improves both bodily and psychological components, generating greater outcomes and overall well-being. Patient education and counseling are critical pillars in fostering awareness and comprehension of gallbladder (GB) disorders, particularly their likely association with mental conditions, as well as encouraging adherence and compliance to treatment and follow-up regimens. These training exercises prepare both the patient and their family to notice crucial components of GB problems, such as detecting signs, symptoms, and repercussions and urging proper medical treatment when necessary. Therefore, it provides people with insights about the causative components and risk factors associated with GB disorders, assisting in the adoption of prevention methods such as maintaining a healthy weight, diet, and lifestyle, as well as avoiding triggers like fasting, stress, or sickness [11,12].

Additionally, patient education serves as a conduit to elucidate the intricate facets encompassing GB disorder diagnosis and therapeutic options, offering clarity on anticipated outcomes and prognostic implications for each intervention [8, 9]. It also unveils the potential interplay between GB complications and mental health conditions, underscoring the necessity for a comprehensive approach that addresses both maladies concurrently. Stimulating adherence and compliance to treatment regimens and scheduled follow-ups emerges as paramount, shedding light on the advantages of adherence while delineating the repercussions of noncompliance, encompassing potential relapse, recurrence, or therapeutic challenges. Furthermore, patient education and counseling provide an avenue for individuals to articulate their reservations, uncertainties, or queries regarding treatment modalities and subsequent follow-ups. Encouraging patients and their families to engage healthcare professionals for elucidation or assurance fosters a sense of conviction and reliance on their prescribed treatment regimen.

Ultimately, these sessions provide a platform for acquiring coping mechanisms and strategies essential in navigating the physical and emotional tribulations entwined with GB disorders and their ramifications. Strengthening the patient's self-efficacy and resilience is a cornerstone of these educational initiatives, allowing patients to better deal with the challenges presented by GB illnesses.

Conclusion:

This compelling case serves as an example of the complex diagnostic nuances encountered in hepatobiliary illnesses, particularly in people who are also dealing with schizophrenia. Although tests revealed a probable large gallbladder mucocele, the clinical presentation was incongruent with typical gallbladder pathology. Subsequent surgical operations revealed a perforation, which differed significantly from the projected diagnosis. This case emphasizes the significance of thorough inquiry and evaluation of different etiologies in challenging medical situations. It emphasizes the significance of thorough examination and heightened vigilance, particularly when symptoms deviate from standard presentations, underscoring the critical importance of extensive medical inspection in difficult diagnostic difficulties.

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Figures :

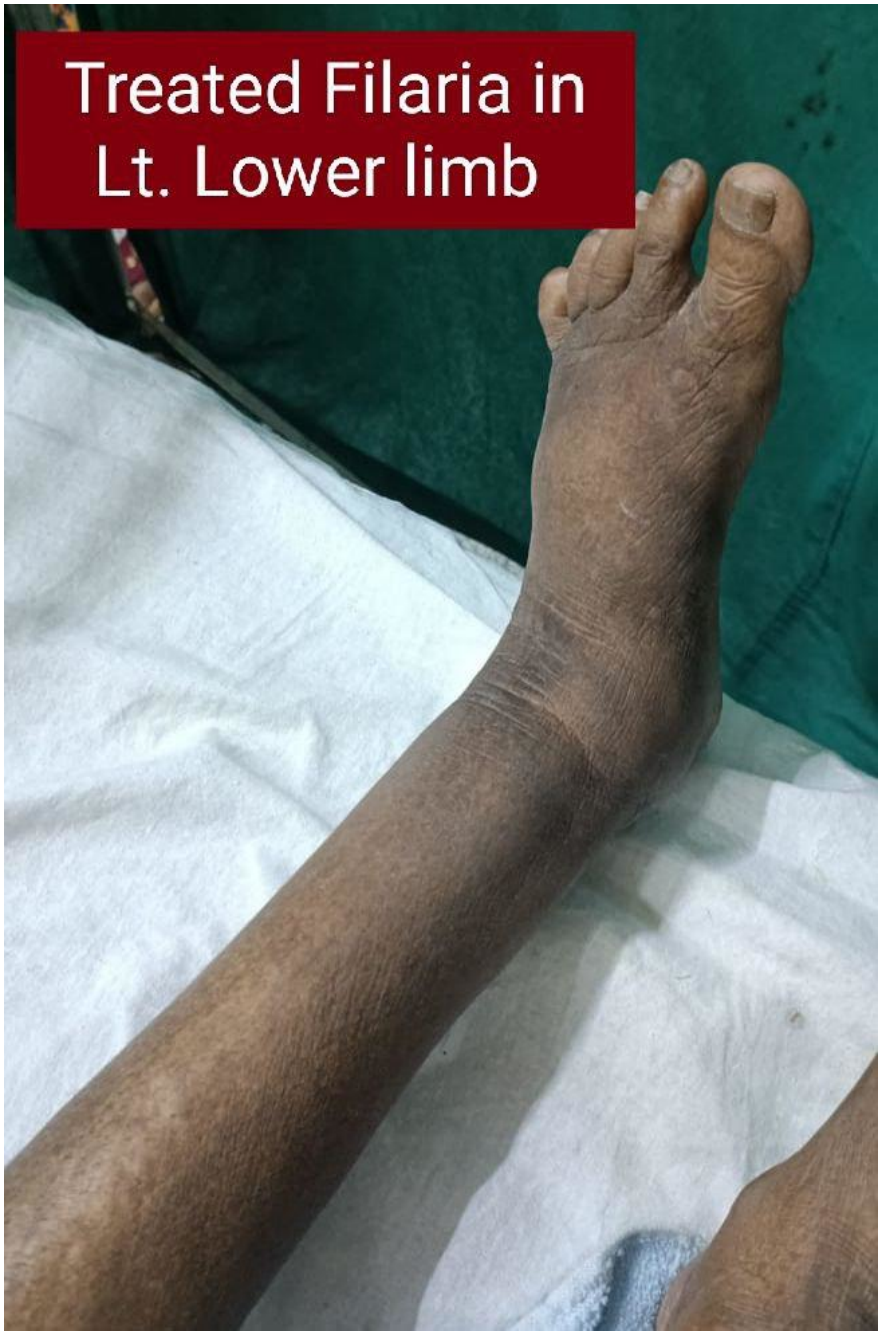

Fig. 1 (Previously treated Filaria in left lower limb)

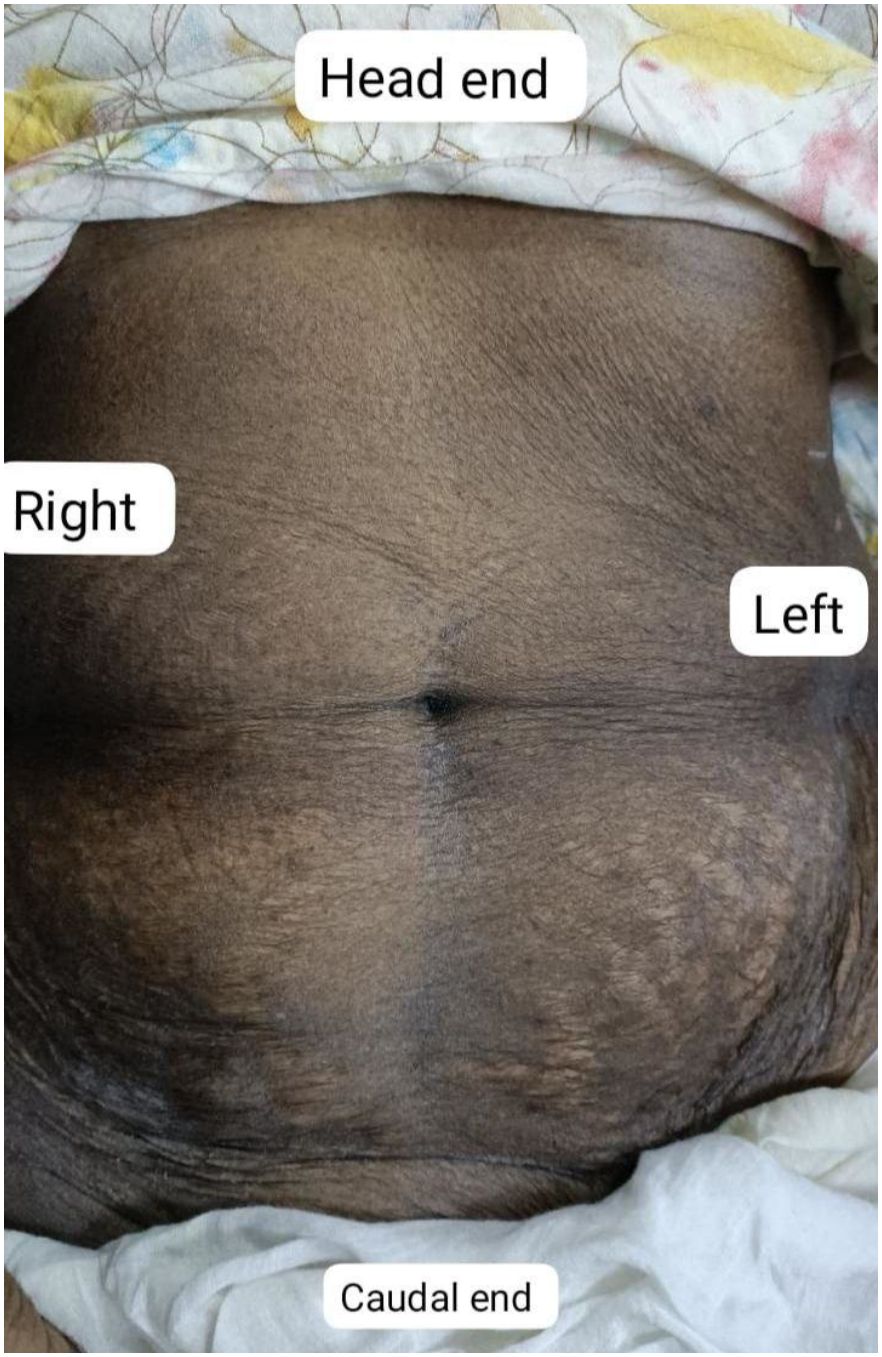

Fig.2 (Abdomen overview of the patient)

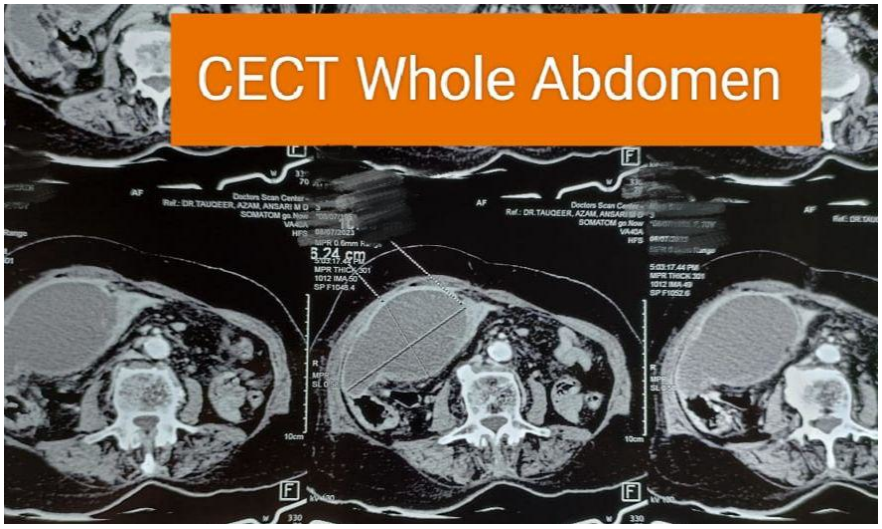

Fig.3 (CECT Whole Abdomen showing organised collection in continuity with GB)

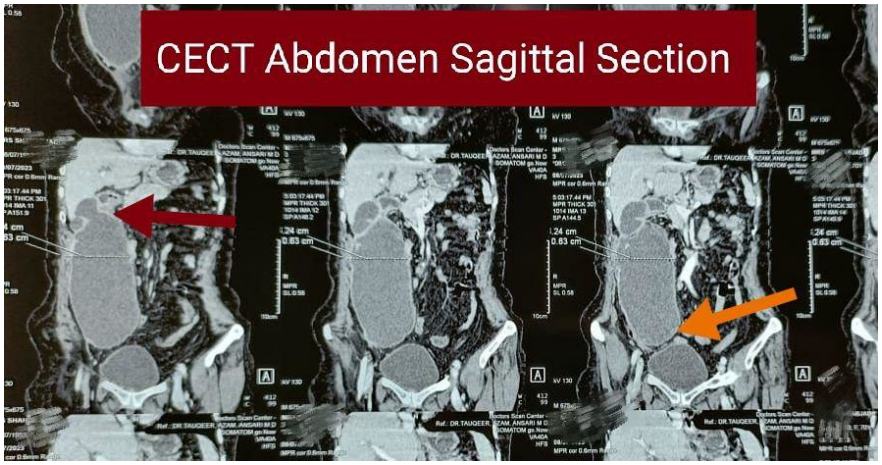

Fig.4 (CECT Abdomen showing organised intra-peritoneal collection in continuity with GB, extending from Right hypochondrium to right iliac fossa)

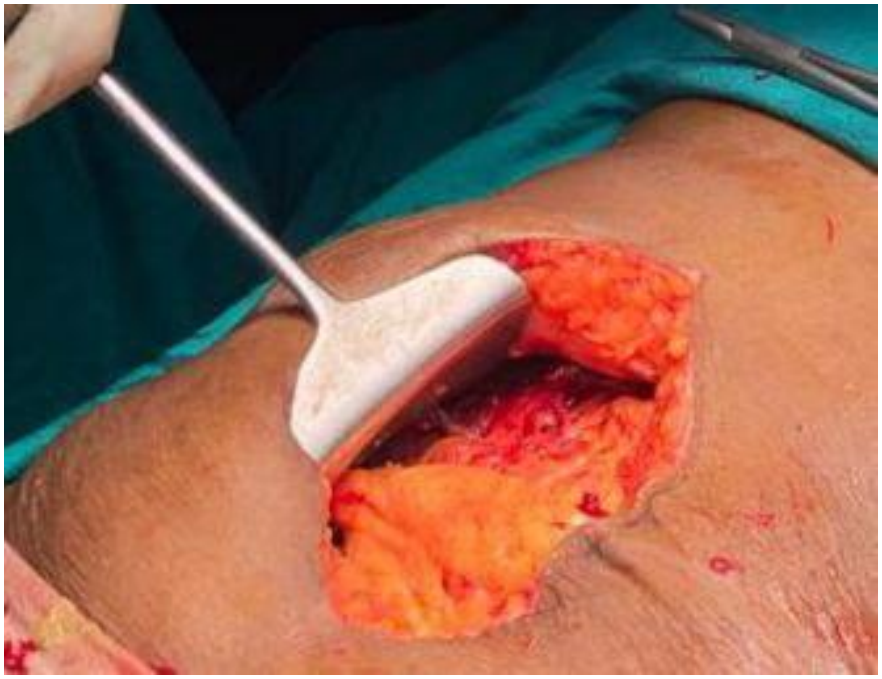

Fig.5 (Dense adhesions and distorted hepatobiliary anatomy)

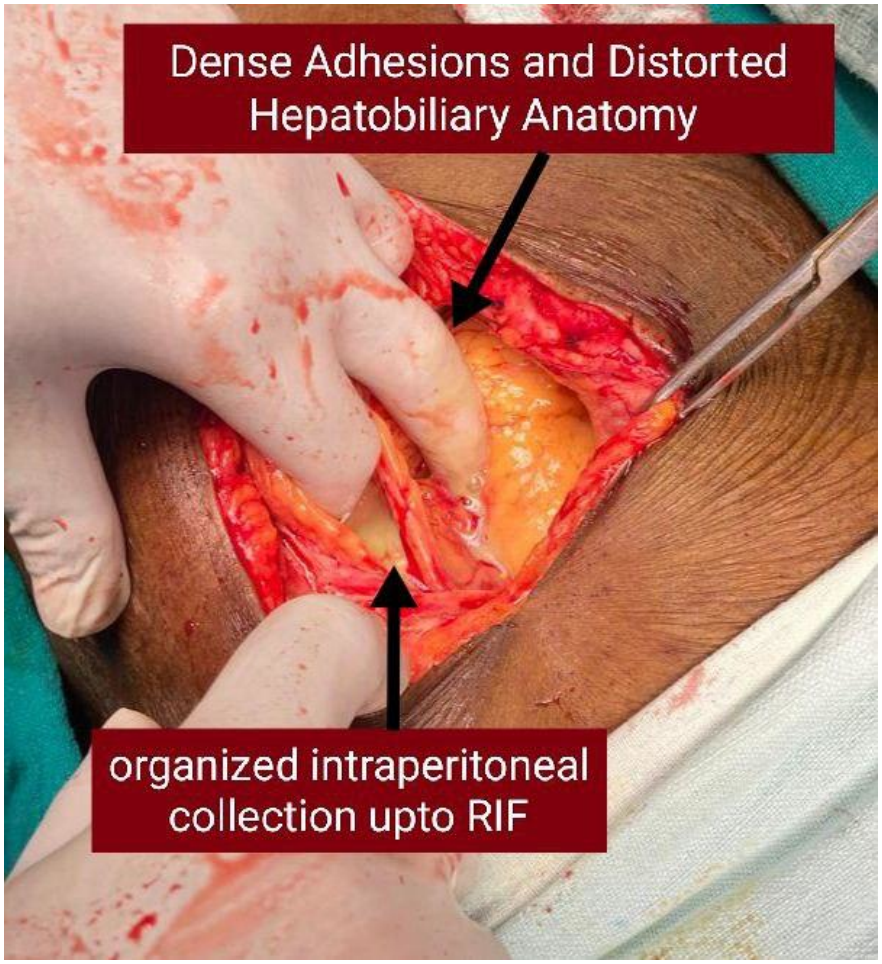

Fig.6 (Intra-op findings)

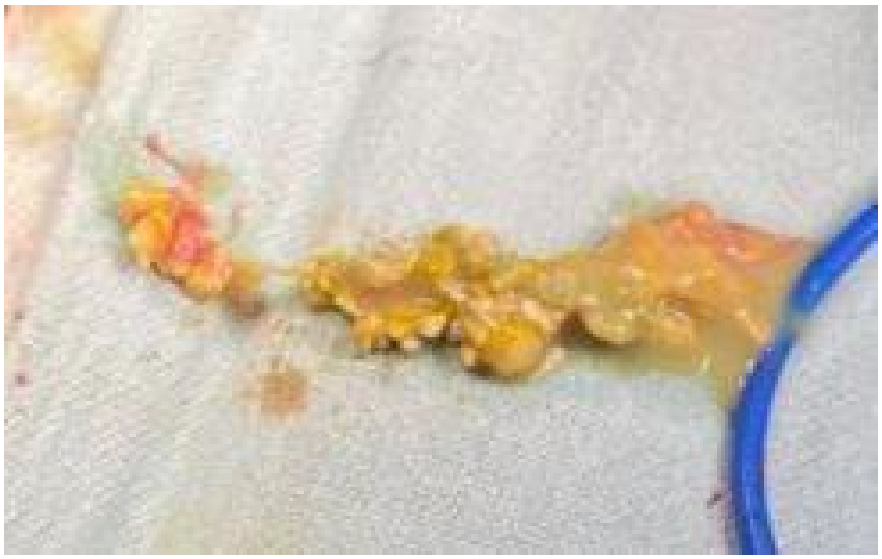

Fig.7 (Organised pus flakes)

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