

# Isolated Congestive Reactional Non-Specific Retro-Peritoneal Adenitis Mimicking a Choledocal Cyst in a Case at the “Luxembourg” Hospital Center in Bamako

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## Abstract

The aim of our work was to establish the diagnostic difficulty of isolated non-specific retroperitoneal congestive adenitis on medical imaging. Patient: This is a 27-year-old patient from a district located 660 km from Bamako with no known medical history or notion of travel. The onset of the disease dates back to 3 years marked by pain in the right hypochondrium and the epigastrium radiating to the back in the form of torsion, of medium intensity associated with periodic vomiting and jaundice. She was referred to the medical imaging department for pain in the right hypochondrium and cholestatic jaundice. The abdominal CT scan with and without contrast injection showed an oval retroperitoneal mass, with regular contours sitting behind the head of the pancreas and in front of the right kidney with its hypo-dense center of density equal to 23 HU measuring 44 × 28 mm, with a thick wall enhanced after injection of contrast product. It was associated with a distended gallbladder with a thin wall and hypo-dense content and a moderate dilation of the intrahepatic bile ducts. Following these examinations, the diagnostic hypothesis of cystic dilation of the common bile duct was retained. Surgery made it possible to cure the retroperitoneal lesion, discectomy of the gallbladder and biopsy of the lesions. The histological examination made it possible to make the diagnosis of isolated nonspecific reactive congestive adenitis. Conclusion: Isolated nonspecific congestive retropancreatic adenitis with a ne-

crotic center poses a diagnostic problem for imaging in our environment because of its similarity to the bile duct cyst. This study, which is a very illustrative case, showed us a diagnostic discrepancy between the result of cross-sectional imaging and that of surgery and pathology.

## Keywords

Adenitis, Cyst, Imaging, Luxembourg

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## 1. Introduction

Adenopathy is a pathological hypertrophy of a lymph node  $\geq 1.5$  cm in the inguinal area or  $\geq 0.5$  cm at the epitrochlear level or  $\geq 1$  cm in the other lymph node areas [1] [2]. The cause can range from an infectious process to a malignant disease [3] [4]. Examination of lymphadenopathy involves several steps: clinical examination, biological examinations, imaging, fine-needle lymph node aspiration cytology and histological control [3]. It is difficult to diagnose the cause of lymphadenopathy based on history and physical examination alone. Lymphadenopathy is becoming a common medical condition in most parts of the world and a number of studies have been carried out to assess the extent of the problem. It is a clinical manifestation of regional or systemic disease that is an excellent indicator of the underlying disease [5]. The characteristics of the disease vary considerably between ethnic groups and countries [6] [7] [8] [9]. Knowledge of the profile of lymphadenopathy in a given geographical region is essential to make a diagnosis of suspected disease in this region. Enlarged lymph nodes are associated with different conditions; however, the most common cause of enlarged regional lymph nodes appears secondary to tuberculous lymphadenitis, malignant causes, reactive hyperplasia, Hodgkin's lymphoma, non-Hodgkin's lymphoma, pyogenic abscess, and other chronic inflammations [10]. Thus in India, Sharadamani [11] in 2017 in his study of 99 cases, the etiologies of lymphadenopathy were tuberculosis in (45%), reactive lymphadenopathy in (27%) including respiratory tract infections lymphadenopathy of unknown etiology in (16%), a lymph node metastases (9%) and a lymph node suppuration (2%). In West Africa, particularly in Nigeria, Egejuru [12] found the frequency of adenopathies at 28.43%, the etiologies of which were dominated by metastatic carcinomas at 50%, followed by reactive lymphoid hyperplasia with 17.86%, tuberculous lymphadenitis at 14.29%, lymphomas at 8.93%, dermatopathic lymphadenopathy and Kikuchi Fujimoto's disease at 3.57% and 1% for chronic noncaseating granulomatous disease. Similarly, in Algeria, a study concluded the frequency of adenopathies at 4%, of which (28%) were located in the superficial territories, (36%) corresponded to deep adenopathies and 36% to multifocal adenopathies. Tumor metastases including digestive cancer, ENT cancer, breast cancer and hematological malignancies were the main etiologies [13]. Solitary or localized lymphadenopathy on the one hand, *i.e.* affecting a single drainage territory,

poses a diagnostic problem and generalized lymphadenopathy on the other hand, poses different problems.

In Africa in general and in Mali in particular, there are no studies reported in the literature on nonspecific retroperitoneal congestive reactive adenitis.

We report a case of isolated retroperitoneal non-specific reactive congestive adenitis operated for a bile duct cyst in a 27-year-old woman.

The objective of our work was to establish the diagnostic difficulties of isolated retroperitoneal reactive congestive adenitis on medical imaging in our context.

## 2. Observation

This is a 27-year-old patient from rural Mali with no known medical history or notion of travel. The onset of the disease dates back to 3 years marked by pain in the right hypochondrium and the epigastrium radiating to the back in the form of torsion, of medium intensity associated with periodic vomiting and cholestatic jaundice. On admission to the gastroenterology department, the patient presented with low fever (37.8 °C at 8 am). She was thin with a BMI equal to 13 (weight: 45 kg and height 165 cm). On clinical examination, the abdomen was supple, participating normally in breathing without a laparotomy scar or a palpable mass. Exploration of lymph node areas cervical and inguinal were unremarkable.

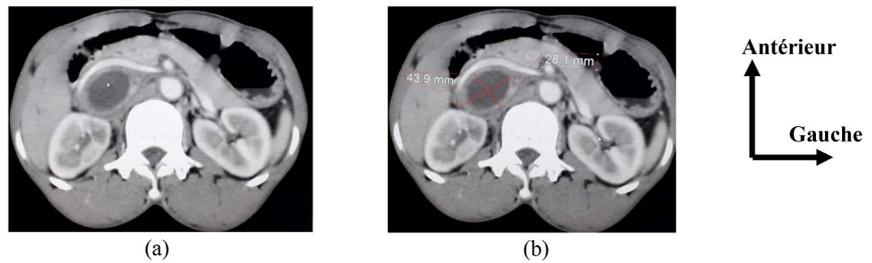
On biology: the rate of GPT and GOT was respectively 19 UI/L and 17 UI/L, the direct and total bilirubin at 0.09 and 0.2 mg/dl. Blood sugar level was 96 mg/dl and prothrombin level 100%, INR was 1.0. On the NFS: the WBC rate was  $4.9 \times 1000/\text{mm}^3$ , the Lymphocyte rate 43.6%, Monocyte rate 8.5% and Granulocyte rate 47.9%. The sedimentation rate was high equal to 15 mm at the 1st hour and 25 mm at the 2nd hour. The CRP was above 15 mg/L. EBV, CMV and HIV serologies were normal. The Tubertest was negative.

Abdominal ultrasound showed a formation with an anechoic center and thick wall with regular contours located behind the head of the pancreas measuring  $44 \times 28$  mm. It was associated with moderate dilation of the intrahepatic bile ducts and distention of the gallbladder.

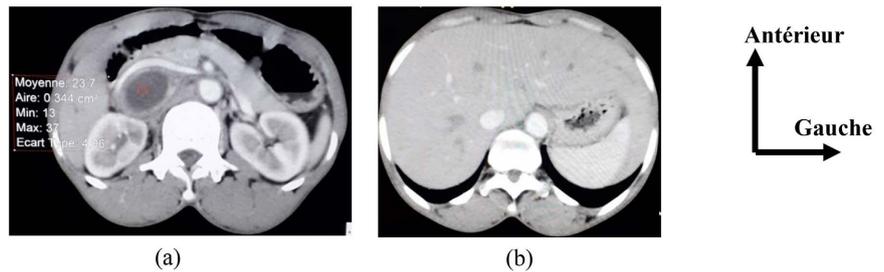
The abdominal CT scan without and after contrast injection carried out following this examination showed an oval tissue mass with a hypo-dense center of density equal to 23 HU measuring  $44 \times 28$  mm. This lesion had thick walls and regular contours sitting behind the patient's head pancreas and in front of the right kidney (**Figure 1(a)** and **Figure 1(b)** and **Figure 2(c)**).

There was also a distended gallbladder with a thin wall and homogeneous hypo-dense content. It was associated with a moderate dilation of the intrahepatic bile ducts (**Figure 2(d)**). There was no abnormality of the pancreas and Wirsung's duct (**Figure 1(a)** and **Figure 1(b)** and **Figure 2(c)**).

After injection, peripheral enhancement of the retropancreatic cystic mass was noted (**Figure 1(a)** and **Figure 1(b)**). The diagnostic hypothesis on imaging was a bile duct cyst with mild hepatic cholestasis.



**Figure 1.** (a) and (b) TDM abdominale injectée coupe axiale montrant une formation kystique retro péritonéale à paroi épaisse retro pancréatique mesurant 44 × 28 mm.



**Figure 2.** (a) and (b) TDM abdominale injectée en coupe axiale montrant une formation kystique à paroi épaisse retro pancréatique en arrière de la tête du pancréas et en avant du rein droit de densité mesurée à 23 UH et mettant en évidence la dilatation des voies biliaires intra hépatiques.

The MRI could not be performed due to lack of financial means.

The patient was operated according to the protocol; Supra-umbilical midline laparotomy. At the coeliostomy, there is a large gall bladder, a large retro pancreatic adenopathy sitting between the kidney and the pancreas, of firm consistency and brown in color associated with a dilated bile duct and an inflammatory pancreas.

The surgical gestures carried out, we proceed to the cholecystectomy plus the resection of the adenopathy and lymph node biopsy. The postoperative course was simple with first-line healing of the surgical wound, disappearance of pain and jaundice.

The histological examination of the section produced reveals a congestive lymph node fragment with hyperplasia of the lymphoid follicles without cytonuclear atypia. This examination concluded that there was nonspecific congestive reactive adenitis.

Following the surgery, the patient received short-term antibiotic therapy based on injectable ceftriaxone (8 bottles) 1 × 2/d IVL for 4 days and injectable paracetamol 300 mg 15 mg/Kg weight/d *i.e.* 600 mg/d by injection slow intravenous for 6 days. Then the molecule of Ciptin forte tablet 500 mg orally at 1 tablet × 2/day for 5 days replaced the ceftriaxone injection. Complete remission was obtained after 12 days. The clinical and ultrasound control at three months of the patient's recovery was unremarkable. There was no recurrence of the previously described lesion.

### 3. Discussion

Isolated retroperitoneal nonspecific congestive adenitis is a pathology very rarely encountered.

When the cause is unknown, lymphadenopathy should be classified as localized or generalized [14]. The underlying etiology varies depending on whether the adenopathy is isolated or not. Examination of lymphadenopathy involves several steps: clinical examination, biological examinations, imaging, fine-needle lymph node aspiration cytology and histological control [15]. Our patient consulted for weight loss, pain in the right hypochondrium radiating to the dorsal hemi-girdle and to the right shoulder associated with jaundice and periodic vomiting. These signs join the classic triad of the common bile duct cyst which varies according to the studies between 15% and 63% of cases [16]. On clinical examination, abdominal palpation revealed a soft abdomen without laparotomy scar, without palpation of abdominal mass and organomegaly. Exploration of lymph node areas was unremarkable.

Abdominal lymphadenopathy is best visualized by CT scan, which allows both retroperitoneal and mesenteric lymph node areas to be studied. Both CT and ultrasound can assess the size and structure of the spleen and liver. Pelvic adenopathies (internal iliac and external iliac) are visualized correctly by both CT and ultrasound. The adenopathies of malignant lymphoid hemopathies (lymphomas) are now explored by FDG (fluoro-deoxy-glucose) scintigraphy, the images of which can be merged with those of the scanner (PET-scan). Depending on our means, our patient benefited from an abdomino-pelvic ultrasound and an abdomino-pelvic CT scan with injection. The abdomino-pelvic ultrasound showed an oval formation with a hypo-echoic center, a thick wall and regular contours sitting in the retropancreatic lodge measuring  $44 \times 28$  mm with a distended gallbladder and a discreet dilation of the intrahepatic bile ducts without an image of dilation extrahepatic bile ducts and Wirsung duct.

The abdominal CT scan without and after contrast injection performed following the ultrasound showed an oval retropancreatic tissue mass with a hypo-dense center of density equal to 23 HU measuring  $44 \times 28$  mm (**Figure 1(a)** and **Figure 1(b)** and **Figure 2(a)**). Its walls are thick and its contours are regular sitting behind the head of the pancreas and in front of the right kidney (**Figure 1(a)** and **Figure 1(b)**). It was associated with a distended gallbladder with a thin wall and hypo-dense content. There was a discreet moderate dilation of the intrahepatic bile ducts (**Figure 2(b)**). After injection of contrast product, peripheral enhancement of the lesion was noted (**Figure 1(a)** and **Figure 1(b)**).

The diagnostic hypothesis was a cystic dilation of the common bile duct with mild cholestasis syndrome.

MRI could not be performed due to lack of resources.

First-line biological examinations; such as blood count and formula, chest X-ray, viral and bacterial serologies, immunological assessment and rapid diagnostic tests, can be quickly offered depending on the clinical presentation [17]

[18]. Viral and bacterial serologies, first choice examinations, are guided by the clinic and carried out in a routine laboratory. Serology is mainly used for the diagnosis of infections caused by intracellular bacteria and by viruses. It has the advantage of being a quick, easy, non-invasive and inexpensive examination. However, they have many limitations. Its sensitivity and specificity vary enormously from one laboratory to another and according to the technique used, which makes its interpretation difficult. In addition, the time taken for the appearance of antibodies being about fifteen days, too early serology may be responsible for false negatives. In order to detect seroconversion, a second serology must be performed within 15 days to one month [19]. In our patient, the GPT and GOT levels, the direct and total bilirubin, the blood sugar level, the prothrombin level, the NFS and the EBV, CMV and HIV serologies were within the norms. The sedimentation rate was equal to 15 mm at the 1st hour and 25 mm at the 2nd hour. The CRP was above 15 mg/L. These two elements pointed us towards a bacterial affection or an inflammation.

Any unexplained adenopathy lasting more than 1 month must be the subject of a surgical biopsy for diagnostic purposes. This “golden rule”, even if it can be relaxed by the possibility of a good quality cytological diagnosis after puncture, remains effective in clinical practice. The surgeon and the pathologist must decide on the complete excision of the largest lymph node in a polyadenopathy. Biopsy of an inguinal lymph node is avoided whenever possible, because of the lower cost-effectiveness of biopsy in this area and the risk of permanent lymphedema of the limb. Rarely, the biopsy may be accompanied by nerve damage: peri-parotid lymphadenopathy and facial nerve, posterior cervical lymph nodes and accessory spinal nerve. In the case of lymph nodes of equal size, the biopsy is performed in decreasing order of preference in the supraclavicular, cervical, axillary, epitrochlear and inguinal situation. The lymph node must be cut along its longest axis to give rise to an affixing on the slide of the slice of section (imprint), readable in a few minutes or hours depending on the dye used. The ganglion is then intended, according to an explicit request from the doctor, for anatomopathology laboratories accompanied by fingerprints, and bacteriology, mainly for culturing. With regard to the study in anatomopathology, it is essential to mention to the surgeon that one part must be transported quickly in a sterile compress soaked in physiological saline for freezing and the other part in a classic fixative (Bouin’s liquid or formalin stamped). The cost-effectiveness of lymph node biopsy, typically around 50% - 60%, has not been studied since the advent of new immunohistochemistry and molecular biology techniques [20]. Our patient benefited from a surgical treatment which consisted in making the cholecystectomy plus the biopsy of the ganglion and the gallbladder.

Histological examination of the cut made allowed the diagnosis of non-specific congestive reactive adenitis to be made.

The patient received short-term antibiotic therapy based on injectable ceftriaxone (8 bottles) 1 × 2/d IVL for 4 days and injectable paracetamol 300 mg 15 mg/Kg weight/d or 600 mg/d by slow intravenous injection for 6 days. Then the

molecule of Ciptin forte tablet 500 mg orally at 1 tablet  $\times$  2/day for 5 days replaced the ceftriaxone injection. Complete remission was obtained after 12 days. The clinical and ultrasound control at three months of the patient's recovery was unremarkable. There was no recurrence of the previously described lesion.

#### 4. Conclusions

Isolated congestive adenitis in the course of the main bile duct, in particular non-specific retropancreatic with a necrotic center, poses a diagnostic problem because of its similarity to the bile duct cyst.

Its diagnosis is difficult by the means of imaging available to us in our environment.

In this context, post-surgical biopsy is of great help for early positive diagnosis and rapid management.

Hospital practitioners should bear in mind that the association of isolated non-specific retroperitoneal congestive adenitis associated with a mild cholestasis syndrome is possible. This study, which is a very illustrative case, showed us a diagnostic discrepancy between the results of the scanner-ultrasound coupled with those of surgery and anatomopathology.

This diagnosis can in our opinion be integrated as part of the differential diagnosis of the bile duct cyst.

#### Conflicts of Interest

The authors declare no conflicts of interest.

#### Authors' Contributions

All authors contributed to the acquisition of data, analysis and interpretation of the data and writing of the article.

#### Ethics of the Study

Informed consent from the patient's parents was obtained before the start of the study.

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