

The Lithiasis of Choledoque: Epidemiological Aspects, Clinics and Therapeutiques in the Surgery Department “A” at the University Hospital Point G

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How to cite this paper: Sacko, O., Diallo, S., Soumaré, L., Camara, M., Koumaré, S., Sissoko, M., Keita, S., Diarra, I., Konaté, M., Traoré, M., Soumaré, G., Dakouo, D., Coulibaly, M., Dicko, H., Dianessi, Y., Koita, A. and Sanogo, Z. (2019) The Lithiasis of Choledoque: Epidemiological Aspects, Clinics and Therapeutiques in the Surgery Department “A” at the University Hospital Point G. *Surgical Science*, 10, 281-286. <https://doi.org/10.4236/ss.2019.108030>

Received: July 10, 2019

Accepted: August 11, 2019

Published: August 14, 2019

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Abstract

Considered as rare in Africa lithiasis of the main bile duct (MBD) is a potentially serious pathology, diagnosis is facilitated by imaging tests (ultrasound, CT, MRI cholangiopancreatography). Its surgical management is improved by laparoscopy coupled with interventional endoscopy. However, laparotomy remains the only way in Mali. This was a 14-years retrospective and descriptive study (2010-2014). All patients with BPV lithiasis were included. We studied the field, antecedents, clinical, biological, radiological, therapeutic and outcome aspects. 40 cases of stones in the main bile duct were collected during the study period. The hospital frequency was 2.8 cases per year, the clinical signs dominated by the Charcot triad (pain, fever, jaundice) found in 40 cases (100%). The average age was 60 years, female represented 70% of cases. Ultrasonography was the most requested review in 40 cases (100%). The procedure performed was cholecystectomy associated with choledochotomy with calculation extraction in all patients (100% of cases). One case of biliary fistula and one case of wall abscess were observed. The mortality was 5% and the simple suited in 90% of the cases. The lithiasis of the main bile duct is an infrequent pathology in Mali and potentially serious. This diagnosis is assisted in our context by ultrasound and CT. Laparotomy remains the only route of entry in Mali.

Keywords

Lithiasis of the CBD, Surgery, Cholelithiasis

1. Introduction

The choledocholithiasis is the presence of one or more stones in the main bile duct [1]. In the literature, the frequency of the lithiasis of the main bile duct oscillates between 2% and 28% of biliary lithiasis in general [2]. Biliary stones are considered rare in Africa [3], but are common in Western countries where it affects the adult population in a proportion of 9% to 12% in France and 15% to 20% in the USA [4].

In Africa: in Niger SANI R. in 2007 found 11% of the main bile duct stones in the National Hospital of Niamey in 136 cases of cholelithiasis [5]. In Burkina Faso, TRAORE S. S. in 2009 found that the lithiasis of the main bile duct represents 25.6% of the biliary lithiasis in the visceral surgery department of the Yalgado OUEDRAOGO University Hospital Center in Ouagadougou [6]. In Mali the stones in the common bile duct represent 28.57% of gallstones in the general surgery departments of University Hospital Centers [7]. The exploration of the main bile duct can be done by transcutaneous ultrasonography, retrograde opacification of the main bile duct, echo endoscopy, cholangiography and MRI [8].

The standard treatment of cholelithiasis of the main bile duct was for a long time “traditional” surgery performed by laparotomy. This therapeutic approach was based on a well codified surgical technique with very satisfactory results in terms of mortality, morbidity and residual stones. The combined surgical/endoscopic intraoperative treatment consists of a laparoscopic cholecystectomy, an intraoperative endoscopic sphincterotomy, facilitated by the introduction of a guide wire introduced during the perioperative cholangiography has replaced the laparotomy in the West. The overall mortality is on average 5% depending on age, defects and especially the severity of complications [9].

Due to the rareness of the publications on the treatment of choledochal lithiasis in Mali, we conducted a study on the management of choledochal lithiasis in Surgery A at the Point G UHC.

2. Patients and Method

Type and period of study: This was a retrospective and descriptive study from January 2000 to December 2014 (14 years old) in the surgical unit A of the Point G. UHC.

Framework of study: This work was done in the surgical unit A of the Point G. UHC.

Inclusion criteria: We included patients with the diagnosis of cholelithiasis was laid in pre- and/or during surgery, the patients with cholelithiasis pre and/or

intraoperatively associated with cholelithiasis or other associated pathologies.

Criteria of non-inclusion: We have not included in this study patients operated for gallstones without stones bile and all patients whose records were unusable.

Diagnosis criteria: the diagnosis of choledochal lithiasis was clinical and paraclinical (ultrasonography and computed tomography).

Sociodemographic data of the patient, the clinical and para clinical parameters, the diagnosis, the therapeutic data, The postoperative suite has been studied. The informed consent of the patients was respected for the realization of this work.

3. Results

In 14 years 40 cases of cholelithiasis were collated in service, with an average of 2.8 cases per year. She represented 0.15% of the entire consultation for the period of the study and 0.37% surgery during the same period. Females accounted for 70% (n = 28) of cases with a gender ratio of 2.3 for women. The mean age of patients was 60 years with a standard deviation of 11.44 and extremes of 32 years at 78 years. In the study 62.5% of patients (n = 25) were referred by a specialist physician.

The clinical signs found in the study are reported in **Table 1**.

In 35% of patients (n = 14) choledochal lithiasis was associated with vesicular lithiasis. Ultrasound was performed in all patients (n = 40) and demonstrated lithiasis associated with primary biliary dilatation. Laboratory tests highlighted a cholestasis syndrome in 8 patients 20%. Hyperleukocytosis was found in 5% of patients (n = 2). The risk factors found are reported in **Table 2**.

Table 1. Clinical signs found.

Clinical signs	Effective	Percentage
Triad of Charcot	40	100
Pruritus	38	95
Discolored urine dark feces	40	100
vomiting	38	95
Right hypochondrial defense	8	20

Table 2. Risk factors.

Risk factors	Effective	Percentage
Age> to 40 years	37	92.5
Female	28	70
multiparity	26	65
Obesity	22	55
Family history	8	20
Sickle Cell	4	10

Table 3. Seat of the lithiasis and associated lesion.

seat	Effective	percentage
The low common bile	30	75
The bile duct	10	25
Associated vesicular lithiasis	3	7.5

The surgical procedure: The site of choledochal lithiasis and associated lesions are reported in **Table 3**.

The surgical procedure consisting of a cholecystectomy associated with a longitudinal cholodocotomy with extraction of the computation and establishment of a kheroside drain in the common bile duct in 39 patients (97.5%) and a transcystic drain in a patient (2.5%). Verification of the permeability of the bile was performed. Cholangiography was performed 3 days postoperative in all patients and not objectified residual calculation, but it revealed a case of bile leakage 2.5% (n = 1). No patients received intraoperative cholangiography because of a lack of technical facilities in our structure. The Kher drain was removed postoperatively in 39 patients, or 99% of cases. The morbidity was marked by a case of biliary fistula is 2.5% (n = 1) and a case of abscess of the wall is 2.5% of cases. The mortality was 5% (=2), and the follow-up was simple in 90% of cases.

4. Discussion

In Mali the actual frequency of cholelithiasis is not known. The frequency observed in the western series varies between 10% - 15% of the population among which 5% - 15% suffer from a lithiasis of the main gallstone (CBD) [10]. Surgery of the CBD represented in our study 2.8% of all surgery for gallstones, this frequency has been reported in men by studies carried out in Niger and Burkina [5] [6]. The prevalence and incidence of cholelithiasis increase with age. The average age of 60 years of our series does not differ from those of the Ivorian and French series [10]. Cholelithiasis is deemed to 2 to 3 times common in women than in men both in Africa and in the West [11]. This higher frequency in women is explained by the role of female sex hormones, contraception and estrogen therapie [12]. The sex ratio was 0.4 in our series against 3 in the study of Keita [7]. The febrile painful jaundice is observed in 50% of cases and achieves the choledochal syndrome which combines in less than 24 hours to 48 hours in the order: pain of the right hypochondrium, fever and jaundice. This triad known as the Charcot triad is one of the key elements in the clinical diagnosis of choledochal lithiasis. It was observed in 33% of cases in the series reported by Tham [13] against 100% in our series, this difference is explained by the fact that in our series the patients consulted late or all the clinical signs were already present. Ultrasound hepatobiliary was the morphological examination performed in all the patients of our series is 100% of cases. In the series of Tham [13] its percentage of realization was also 100% and made it possible to highlight in 60% of cases the lithiasis against 100% in our series. The performance of ultrasound in the diagnosis of CBD li-

thiasis remains difficult to assess. Sensitivity figures reported in the literature range from 15 to 75%. The examination conditions and the type of calculation are determining elements. Some authors [13] [14] have consistently asked the abdominal computed tomography (CT) in 71% - 76% of cases in our study CT was requested when the result of an ultrasound was not contributory. In most series, biological tests have shown a cholestasis syndrome that varies between 20% and 30% [13] [14]. In our study, cholestasis syndrome was observed in 8 patients (20%) and leukocytosis observed in 2 cases (20%). Laparoscopy and sphincterotomy oscopique are the standard treatment of stones in the CBD in the West, these surgical approaches have many advantages over conventional surgery, they are not feasible in Mali for lack of technical facilities. This is why all the patients of our series were operated by laparotomy is 100% of cases, the median incision was the most used in our series, in the series reported by Keita [7] the right subcostal incision was the most performed, 80.7% of cases. The choice of the type of incision depends on the preference of the surgeon. Some authors believe that the right subcostal incision gives easy access to the bile ducts. The surgical procedure performed in our study was associated with cholecystectomy longitudinal cholodochotomie with stone extraction. External biliary drainage was performed in all patients either by a Kher drain 39 cases (97.5%) or a trans cystic drain 1 case (2.5%) against respectively 66% and 34% in the study conducted by N. Houes [14]. Cholangiography intraoperative was not performed in our patients by lack of technical support. However, if the technical conditions allow it, intraoperative cholangiography must be systematic to verify the patency of the bile duct and the existence of residual stones. It was performed in all patients in the study reported by N. Houes [14] or 100% of cases. An under-hepatic drain was placed in all of our patients 50 cases (100%) against 23% of cases reported by Traoré S. S. [6]. This drainage is intended to collect a possible bile leak or bleeding. A cholangiogram was performed in all our patients 3 days after the operation through the Kher drain or cystic drain. It did not objectify residual calculation but 1 case (2.5%) of biliary leak was found it did not require recovery. The Kher drain was removed at 8 days post operative. The overall morbidity was 10% in our series against 25% observed in the Keita series [7]. The morbidity observed in our series was marked by 1 case (2.5%) of biliary fistula and 1 case (2.5%) of wall abscess. The suites were simple in 90% of the cases.

5. Conclusion

The cholelithiasis is a potentially serious pathology, laparoscopy and interventional endoscopy replaced laparotomy in the West, however, laparotomy remains the first way in Mali. Morbidity can be reduced by the use of the endoscopic and laparoscopic approach.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this

paper.

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