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Splenomegaly: Epidemiological, Clinical and Therapeutic Aspects in Children in the Pediatric Surgery in the General Surgery Department of Ignace Deen National Hospital

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ABSTRACT

The objective of this study was to contribute to the study of splenomegaly in children under the age of 15 in the Pediatric Surgery Unit of the General Surgery Department of Ignace Deen National Hospital.

Methodology: This was a retrospective descriptive study lasting 5 years from January 1, 2011 to December 31, 2015 on children with splenomegaly in the pediatric surgery unit of the general surgery department of the hospital national Ignace-Deen.

Results: Splenomegaly represented 1.24% of surgical pathologies during our study. Both sexes were concerned with a male predominance in 52.63%; the sex ratio was 1.11. The 10-14 age group was the most affected (47.37%); The average age of our cases was 9.5 years with extremes of 3 years and 15 years. Abdominal pain associated with an abdominal mass and fever were the main reasons for consultation (100%), followed by physical asthenia and anorexia (78.94%). 63.15% of our diagnosed cases were stage IV of the Hackett classification, followed by stage III (31.57%) and stage V (5.26%).

Conclusion: Any palpable spleen must in fact be considered as pathological. The conditions causing splenomegaly are multiple in tropical countries, their frequency varies from one country to another.

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Introduction

Splenomegaly is an increase in the volume of the spleen which becomes palpable in the left hypochondrium on clinical examination or greater than 13 cm on ultrasound or abdominal CT [1]. Any palpable spleen should be considered pathological. Conditions causing splenomegaly are multiple in tropical countries, their frequency varies from one country to another from 1 to 2% [2].

In endemic settings, splenomegaly is frequent and very fragile in cases of malaria. Malaria is the main cause of ruptured spleen [3]. Chronic and massive splenomegaly is found during progressive visceral malaria, which is also the main clinical manifestation. This situation appears following repeated infestations in subjects with little immunity, especially children in countries endemic to malaria [4, 5, 6].

Splenomegaly is only of secondary interest for diagnosis when there is one of the obvious causes (sepsis, major viral infection, parasitosis, cirrhosis) [4].

The frequency of splenomegaly depends on many factors including the socio-economic conditions and the geographical origin of the subjects. This condition is very common in the tropics.

The aim of this study was to report our experience in the management of splenomegaly in children in the pediatric surgery unit of the general surgery department of the Ignace Deen National Hospital.

Methodology

This was a retrospective descriptive study covering a period of 5 years, from January 1, 2011 to December 31, 2015.

Inclusion criteria: All records of children aged 0 to 15 received and operated on in the department for splenomegaly during the study period with a complete medical record and informed consent from parents.

The study variables were: hospital frequency, age, sex, origin, reasons for consultation, history and background, clinical signs, stages according to classification by Hackett, biological signs, surgical procedures, lesions, progressive consequences, length of stay.

Results

During our series of 1517 other pediatric surgical pathologies in the pediatric surgery unit, splenomegaly represented 17 cases, or 1.24%. Both sexes were concerned with a male predominance in 52.63%; the sex ratio was 1.11. The 10-14 age group was the most affected (47.37%); The average age of our cases was 9.5 years with extremes of 3 years and 15 years.

Abdominal pain associated with an abdominal mass and fever were the main reasons for consultation (100%), followed by physical asthenia and anorexia (78.94%) (Table I). In the medical history, we noted 17 cases of malaria and 13 cases of sickle cell disease. Stage IV of the Hackett classification accounted for 63.15% of our diagnosed cases followed by stage III (31.57%) and stage V (5.26%). All patients were admitted in a febrile state often associated with pallor (Table II). The blood count; the thick gout and the Emel test were the laboratory examinations that contributed the most to the preoperative preparation (Table III).

The midline approach was performed in 15 cases against 4 cases of the right subcostal. Compared to macroscopic, the spleen was congestive in 18 cases and accompanied by a supernumerary spleen in 08 cases. The spleen was fibrous in one case. Total splenectomy was performed in all cases. It was completed by a caudal pancreatectomy in one case. The post-operative consequences were simple in 14 cases (73.68%), we recorded 03 cases (15.79%) of infection of the surgical site and 02 cases (10.52%) of death linked to a subphrenic abscess in one case and a lung infection in the other. The mean length of stay was 14.68 days with extremes of 4 and 65 days

Table I: Frequency according to the reasons for consultation

Reasons for consultation	Workforce (n = 19)	%
Abdominal pain	19	100
Abdominal mass	19	100
Fever	19	100
Physical asthenia	15	78.94
Anorexia	15	78.94
Weight loss	6	31.57
Vomiting	2	10.5

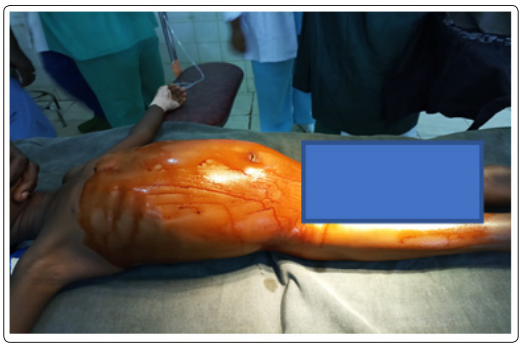
Table II: Frequency according to general signs

General signs	Workforce (n = 19)	%
Pallor	17	89.47
Fever	19	100.00
Dehydration	01	5.26
Signs of undernutrition	02	10.52

Table III: Distribution according to biological examinations

Exams	Workforce (n = 19)		%
AgHbS	Positive	0	00
	Negative	19	100
THb	≤ 6g \ dl	16	84.21
	> 6g \ dl	03	15.79
SRV	Positive	0	00
	Negative	19	100
GE	Positive	17	89.47
	Negative	02	10.53
YOU	Positive	12	63.16
	Negative	07	36.84
NFS	Achieved	19	100
	Not carried out	00	00

Figure 1: Reesection and highlighting A large spleen



Discussion

During our study period, we noted 19 cases of splenomegaly across all surgical pathologies, ie a frequency of 1.24%.

Our results are comparable to those of TIMITE-KONAN M. et al. in their studies on the etiologies of splenomegaly in children in tropical environments at the Abidjan-Cocody University Hospital in Côte d'Ivoire, which found a hospital incidence of 1.6% [7]. This could be explained by the fact that Guinea is a sub-tropical country and very often confronted with infectious diseases.

In our series, both sexes were concerned with a male predominance of 52.63% against 47.37 for the female sex. The sex ratio was 1.11. DIALLO A. [15] in his doctoral thesis in medicine at the Donka National Hospital (CHU de Conakry) also found a male predominance of 57.64% against 42.36% for female sex, a ratio of 1.36. Although the male sex is no longer achieved in many studies, this condition has no impact on the specific gender.

The average age of our patients was 9.5 years with extremes of 3 years and 15 years. The age group most affected was that of 11-15 years, or 68.42% of cases.

Our results are different from those of DIALLO.A [15]. Who reported that the 0-5 age group was most affected by splenomegaly in their series, at 52%.

This finding has shown that all children can be reached, there is no preferred age.

In our series, 57.89% of our patients came from the interior of the country against 42.11% who resided in the city of Conakry. This result could be explained by the fact that the parasitic diseases which are incriminated in the occurrence of splenomegaly are the prerogative of rural areas where they are poorly treated.

In our study, the reasons for consultation were dominated by abdominal pain associated with an abdominal mass and fever, ie 100% of cases. Physical asthenia (78.94%), anorexia (78.94%), weight loss (31.57%) and vomiting (10.5%) were the other reasons for consultation.

These signs corroborate with the circumstances of discovery reported by most studies.

Malaria was the most reported medical history (89.47%), followed by sickle cell disease and intestinal parasitosis with 68.42% and 15.79% respectively.

These results are comparable to those of TIMITE-KONAN et al. [7] who found that malaria was the first etiology of splenomegaly (53%) in the children in their series at the Abidjan-Cocody CHU.

Our data could be explained by the fact that sickle cell disease and tropical pathologies such as malaria are major sources of splenomegaly.

Abdominal asymmetry, palpable splenomegaly and dullness were found on physical examination of all our patients, ie 100%. Scarification of the left hypochondrium was observed in four (4) patients, or 21.05% of cases.

These scarifications would be the traces of the vain attempts to reduce the volume of the spleen traditionally.

All our patients were feverish, ie 100% of cases. Pallor was present in 89.47% of cases, followed by signs of undernutrition and dehydration with 10, 52% and 5.26% respectively.
According to Hackett's classification, stage IV was the most frequent in our series with 63.15%, followed by stage III with 31.56% and stage V with 5.26%.

Our results are different from those of TIMITE-KONAN et al. [7] at the Abidjan-Cocody University Hospital who reported that Hackett's stage II and III were the most frequent in their study with 61.8 and 14% respectively.

Our results would be due to the habits of our populations who only resort to care structures as a last resort, after a more or less long stay with radiotherapists.

An abdominal ultrasound was performed in all of our patients and showed splenomegaly, HBsAg and SRV were negative in our 19 patients, thick gout and Emmel's test were 89.47% and 63.16% positive, respectively. The hemoglobin level was less than 6g / dl in 16 of our patients, ie 84.21%.

These results support the hypothesis that malaria and sickle cell disease are frequent causes of splenomegaly in the tropics.

In our study the main abdominal approach was the midline supra and subumbilical incision with 78.95%, the left supercostal incision was used in 21.05% of cases.

The left subcostal incision is beneficial and less ruinous, it is the easiest to make to access the spleen. But if you plan to explore the abdominal cavity for excess spleens, the upper and subumbilical midline incision is better.

We performed total splenectomy in 18 cases and 1 case of total splenectomy plus caudal pancreatectomy, no case of subtotal splenectomy. VS
Intraoperatively, the lesion assessment revealed ten (10) cases of congestive spleens associated in 8 cases with supernumerary spleens and 1 case of fibrous spleens. This predominance of congestive and inflammatory spleens was observed in the BANGOURA MS series.

The postoperative follow-up was straightforward for 14 of our patients, ie 73.68%, followed by 15.79% complications, including infections of the operative site. These morbidities remain the main cause of the long stay of patients in a hospital environment.

We recorded 2 deaths, or 10.52% following the complications caused.
In our study the mean length of hospitalization was 14.68 days with extremes of 4 and 65 days.

The post-operative complications observed are the main causes of our patients' long stay in the department.

References

1. https://fr.m.wikipedia.org/wiki/Splenomegalie.
2. Sanogo Z (2005) Surgical indication of splenomegaly at Point G hospital in Bamako (Mali). Thesis med Bamako
3. Bah MO, Bah OA, Diallo B, Toure BM, Boudghene F. Contribution of imaging in splenic ruptures at the Conakry University Hospital (Guinea). 2011- 2012
4. Bouree P (2004) Tropical splenomegaly. The medical press 33: 569-70.
5. Rahelitsihoarana O, Jambou R, Tombo ML, Raharimalala I, Rabarijaona l, et al. (1995) Prevalence and etiology of splenomegaly in children in hospitals, schools and dispensaries in Antananarivo (Madagascar) in 1994-1995. Archives of the Institut Pasteur de Madagascar 62: 146-150.
6. Loua N (2015) Splenomegaly: Epidemiological and anatomoclinical aspects at the Conakry University Hospital. Thesis med.
7. Konan Timite M, Adou Assi J (1992) Etiology of splenomegaly in children in a tropical environment, Abidjan in the Ivory Coast. Annal of Pediatrics 39: 136-141.

8. Diallo A (2005) Splenomegaly in children: epidemiological, clinical and etiology aspects in the pediatric service of the CHU Donka-Conakry / Guinea. Thesis med.