

## Management of Omphalocele at the Regional Hospital Fousseyni Daou of Kayes, Mali

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### Abstract

### Review Article

**Introduction:** the omphalocele is defined as a congenital malformation of the abdominal wall from the umbilical ring leading to non-integration of the viscera covered by an amniotic and avascular membrane. The cord still fits over the membrane. There are sometimes cavities between the viscera and the membrane that contain wharton jelly. The frequency is 1 case in 6000 births in France and 1 case in 5000 in Germany. We conducted this study in order to describe the epidemiological aspects and to evaluate the therapeutic results of omphaloceles in the regional hospital of Kayes. **Materials and methods:** We conducted a 15-month retrospective study from January 2020 to March 2021 in the pediatric surgery unit of the Kayes regional hospital, all newborns (0 to 6 days old) admitted to the ward with omphalocele were included. in the study. Other newborns with a malformation in addition to laparochisis were excluded from the study. **Results:** 11 patients were recorded in the study including 7 boys and 4 girls. The average age was 3.5 days and the average weight was 3 kg 350. According to the classification of Aitken 7 were type II and 4 cases type I. The technique of primary musculo-aponeurotic closure was used in all cases. Intraoperative hepatic hemorrhage occurred in 2 cases. We had recorded 2 deaths. No mother had a history of taking teratogenic drugs, 7 were multiparts. Ultrasound had found omphaloceles in 3 antenatal patients. **Conclusion:** Omphaloceles is a surgical emergency for which the management is multidisciplinary and requires an antenatal ultrasound.

**Keywords:** Omphaloceles, kayes, regional hospital, Mali.

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## INTRODUCTION

Omphalocele is a lack of closure of the ventral wall of the embryo before the 11th SA, the frequency is estimated at 1 per 6000 births. It is an embryopathy where associated malformations are frequent. This malformation is described in many malformative syndromes?

The occurrence of this pathology in a family is a tragedy. The diagnosis is antenatal at the ultrasound, but post natal in developing countries. The management is medical and surgical and multidisciplinary studies have been conducted on this malformation.

The absence of study on this pathology in the region of Kayes, motivated us to carry out this study with the following objectives: to describe the

epidemiological aspects and to evaluate the therapeutic results of omphalocele in the regional hospital of Kayes.

**Materials and method:** We conducted this 15-month retrospective study from January 2020 to March 2021 in the pediatric surgery unit of the Kayes regional hospital. All newborns from 0 to 6 days old consulted in the unit with an omphalocele were included in the study.

Other newborns with a malformation in addition to laparochisis were excluded from the study. Data analysis was performed on Epi info 10 software.

## RESULTS

During our study period from January 2020 to March 2021, we recorded 11 patients including 7 boys

(63.63%) and 4 girls (27%); that is to say 1.22% of hospitalizations. The average age was 3.5 days, with extremes of 0 and 7 days. The average weight was 3kg350, all the patients had a weight between 2kg500 and 3kg500 except one who had a weight of 4kg500.

Among the mothers, 6 had undergone a regular prenatal consultation, 2 had not undergone a prenatal consultation (PNC). No mother had taken teratogenic drugs and 7 (63.63%) were multiparous.

Antepartum ultrasound showed omphalocele in 3 mothers, one of whom underwent caesarean section. According to Aitken's classification, 7 were type II (63.63%) (see Figure 1) and 4 were type I (27.27%)

(see Figure 2), (see Table 1). The consanguineous marriage represented (54,5%) in our study.

We found two pathologies associated with omphalocele: 2 inguinal hernias and 1 case of bilateral clubfoot. The swelling was covered by a translucent avascular membrane in 9 cases (81.81%) (see Table 2). In the distribution according to the content of the sac, the liver and the gall were mainly represented in Table 3.

The only operative technique used was the primary closure technique, and the operative follow-up was simple in 8 cases, ventration in 1 case and 2 deaths. The blood count, Rhesus group, bleeding time, coagulation time and abdominal ultrasound were performed in 100% of the patients.



**Image 1: Omphalocele type I**





**Image 2: Omphalocele type II**

**Table 1: Aitken Classification**

DIAMETER OF THE COLLAR	Workforce
Diameter ≥ 8cm Collar ≥4cm liver+ Type II	7
Diameter ≤ 8cm Neck ≤ 4cm liver Type I	4
<b>Total</b>	<b>11</b>

**Omphalocele type II was more frequent**

**Table 2: Physical examination data**

Physical examination	Workforce
<b>Umbilical tumefaction</b>	<b>11</b>
<b>Intact translucent and avascular membrane</b>	<b>9</b>
<b>Implanted umbilical cord</b>	<b>11</b>

**The membrane was translucent avascularly intact in 9 cases**

**Table 3: Distribution table by bag content**

Content of the bag	Workforce
<b>Liver, Stomach, Colon</b>	<b>1</b>
<b>Liver, small intestine</b>	<b>4</b>
<b>small intestine</b>	<b>4</b>
<b>Liver</b>	<b>2</b>

**The liver and small intestine were in the majority in the bag**

**Comments**

Our study took place in the pediatric surgery unit of the regional hospital of Kayes from January 2020 to March 2021 and involved 11 patients, including 7 boys and 4 girls. According to the WHO, the frequency is 1 case /5000 and varies from one country to another [3]. In developed countries the diagnosis is mainly antenatal, in the Malian context the diagnosis is mainly clinical in postnatal. In our series, 9 patients had benefited from abdominal ultrasound (81.81%) and omphalocele was discovered in 3 patients (33.33%). Male sex does not seem to be a risk factor according to studies done in Cameroon [7] and Germany [8]. The

occurrence of omphalocele does not influence the normal development of the fetus. In our series the weight was between 2500g and 4250g, which does not differ from the normal population. According to Atken's classification, type II omphalocele was the most frequent, i.e. 7 cases. The contents of the sac were mainly liver and gall, which is comparable to that of the Senegalese and Ivorian series [3, 4]. For treatment, we used the technique of primitive musculoaponeurotic closure; this approach is different in developed countries [5]. This can be explained by the lack of certain synthetic materials to perform other techniques (shuster, placement of protectors) [5]. In our series, we

recorded two cases of death, i.e. 18.18%, so 81.81% success rate comparable to the success rate in the literature [1, 3].

## CONCLUSION

The omphalocele is a pathology more and more frequent, but little known by the population. Its antenatal diagnosis is becoming easier with the advent of specialization in imaging and its management requires a multidisciplinary technical platform.

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