

Research Article

Pathologies of Peritoneo-Vaginal Duct Persistence in the General Surgery Department of Kara Teaching Hospital (Togo)

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Abstract

Objective: To report our experience as general surgeon in the management of pathologies of Peritoneo-Vaginal Duct Persistences (PVDP) in the general surgery department of Kara teaching hospital (Togo).

Material and Method: This is a retrospective and descriptive study that was carried out for 5 years, from January 1, 2014 to December 31, 2018 in the general surgery department of Kara teaching hospital. It is a study which concerned children or adults managed for pathologies of the persistence of the peritoneo-vaginal duct.

Results: During our study period, 82 patients were operated for PVDP. The average age was 5 years of extremes ranging from one month to 56 years. Persistence of peritoneo-vaginal duct sat on the right in 69 cases and on the left in 13 cases. It was bilateral in three cases. We operated on a recurrence of a right inguinoscrotal hernia. Among hernias, 6 (7.3%) of inguinoscrotal hernias were strangulated. All patients underwent ligation of the peritoneal-vaginal canal. This gesture was associated with an evacuation of the hydrocele in 29 cases; a cystectomy in 3 cases and a course of treatment according to Bassini in 3 cases (patients aged 15 years and over). The six cases of strangulated inguino-scrotal hernias were operated on urgently. There was no bowel resection. The postoperative course was marked by a bursa hematoma in two children which regressed under after one week of monitoring. The average length of hospital stay was 24 hours. No deaths have been reported. No recurrence was observed after one year of follow-up.

Conclusion: Pathologies of the persistence of peritoneo-vaginal duct are frequent. They include several pathologies dominated by hernias which are often found in children under 5 years of age. The postoperative operations are often fraught with complications, the most serious of which is testicular atropia. Reducing complications requires early management, improvement of the technical platform and surgical management by a well-trained team.

Keywords: Peritoneo-vaginal duct; Hernia; Hydrocele; Closure of peritoneo-vaginal duct; Togo

in the management of PVDP in the general surgery department in Kara Teaching Hospital (TOGO).

Material and Method

This is a retrospective and descriptive study during 5 years (from January 1, 2014 to December 31, 2018) realized in the general surgery in kara teaching hospital. It was carried on the fields of patients managed for PVDP in the service. Were included in our study all patients, children and adults, operated for PVDP during the study period in our department. Patients with incomplete

records were not included. The diagnosis was essentially clinical. The treatment consisted of closing the peritoneo-vaginal duct in cases of inguinal / inguinoscrotal hernia and communicating or uncommunicating hydrocele. This closure was associated with a cystectomy in the event of a cord cyst. A hernia repair completes the treatment when it comes to older children or adults. The parameters studied were epidemiological (age, sex, frequency), clinical (reason for consultation, clinical sign), paraclinical (ultrasound), therapeutic modalities, postoperative follow-up and postoperative course were studied. The patients were seen again in control in one month, 3 months, 6 months and 12 months after surgery.

Results

During our study period, we had operated on 525 groin hernias including 82 patients with an anomaly of the peritoneo-vaginal duct. The mean age was 5 ± 9 years with extremes ranging from one month to 56 years. The most represented age group is [0-5 years] (Table I).

Table I: Distribution of patients according to age group.

	Number	Percentage
[0-5 years [57	69,5
[5-10 years [12	14,6
[10-15years [10	12,2
[15 years and over [3	3,7
Total	82	100

All the anatomo-clinical varieties had been found dominated by inguinal / inguinoscrotal hernias 63.4% followed by communicating hydroceles 25.6 % (Table II).

Table II: Distribution of patients according to Pathologies.

	Effectif	Pourcentage
Inguinal / inguinoscrotal hernia	50	63,4
Communicating hydrocele	21	25,6
Non communicating hydrocele	8	9,8
Cord cyst	3	3,7
Total	82	100

PVDP sat on the right in 69 cases and on the left in 13 cases. It was bilateral in three cases. It was a recurrence of a right inguinoscrotal hernia in one case. Among hernias, 6 (7.3%) cases of inguino-scrotal hernias were strangulated. All patients had undergone peritoneo-vaginal duct ligation. This gesture was associated with

an evacuation of the hydrocele in 29 cases; a cystectomy in 3 cases and repair according to Bassini in 3 cases (patients aged 15 years and over). The six cases of strangulated inguinoscrotal hernias had been operated on in an emergency. There was no bowel resection. The outcome was marked by the occurrence of a bursa hematoma in two children which regressed under monitoring after one week. The average length of hospital stay was 24 hours. No deaths have been reported. No recurrence was observed after one year of follow-up in average.

Discussion

PVDP are relatively frequent [1-3]. However, in our study we hadn't operated many cases due not only to several surgical centers in our region but also the management of these cases of pathologies of the PVDP during fairground surgeries. Indeed, our hospital is located in the northern region of Togo. The population is predominantly famers and has a difficulty of access to healthcare. When the majority of the population has a pathology, it waits for the fairground consultations or the frequent fairground surgeries. This explains the small size of our series.

PVDP are the consequence of abnormal closing of the peritoneo-vaginal duct. Thus, on the embryological level, the peritoneo-vaginal duct closes between the 8th and 9th month of amenorrhea. The peritoneo-vaginal duct can remain open over its entire length or only at its proximal part, the distal part evolving normally and forming the testicular vagina. In these cases, during an increase in pressure in the abdominal cavity so frequent in infants (screams, crying), a viscera can be introduced into it thus creating an inguinal or inguino-scrotal hernia depending on whether the bursa is not or is reached. When the peritoneo-vaginal duct undergoes an incomplete involution over the entire length, the viscera cannot engage in it but the fluid from the abdominal region can get to the vagina of the testicle causing a communicating hydrocele so called because spontaneous or manual retrograde emptying is possible. Usually communication is microscopic and the accumulated liquid remains trapped in the vaginal cavity: it is the classic form of vaginal hydrocele encountered in almost 90% cases. Bipolar obliteration of the peritoneo-vaginal duct leads to a lesion suspended: the cord cyst or funicular hydrocele [4,5].

The average age of the patients in our series was 5 years with a predominant age group ranging from [0; 5 years [. The same observation has been made by several authors [2,6]. This could be explained by the fact that the PVDP appears very soon after birth, particularly in infants [7,8]. We had registered patients over 15 years old in our series. This could be explained by the shame which generally surrounds the pathologies of the external genital organs, in Africa, but also by the low level of income of the populations which does not allow them to consult in specialized structures [9]. Pathologies of the peritoneo-vaginal duct occur more in boys than

at the girl's. This is partly due to anomalies in testicular migration [7]. The inguinal / inguinoscrotal hernia was the most frequently encountered anatomo-clinical variety in the literature, unlike others authors such as Sarr et al who had found a predominance of communicating hydroceles [2,7]. The right side was dominant in our series as in several studies [1,6,10,11]. The incidence of bilateral hernias is around 15% [12].

The diagnosis of these pathologies is essentially clinical, but sometimes morphological examinations can be used as ultrasound. This examination could make it possible to make the differential diagnosis with the pathologies simulating the pathologies of the peritoneo-vaginal duct and to carry out the search for a contralateral hernia [13]. We had done it in two cases of intermittent communicating hydrocele which allowed us to lift the doubt. The rate of hernia strangulation in our series is 7.6%. It is almost the same observation in the literature like the work of Kouamé et al [10]. This major complication of hernia is often responsible for apart from the bowel complications of testicular ischemia which can lead to testicular atrophy, hence early management [2]. The management of peritoneo-vaginal duct depends on the anatomical-clinical type, age and symptomatology. With regard to inguinal / inguinoscrotal hernias, the age of the procedure is controversial. However, it is recognized that any inguinal hernia diagnosed in infants without a history should be operated early, without waiting for the age of six months by a well-trained pediatric surgical and anesthetic team [14,15]. Larger or bilateral will be the hernia the earliest will be the surgical intervention under a regional anesthesia preferably [15,16]. The intervention will consist of a herniotomy (closing of the peritoneal-vaginal canal) by open inguinal route or by laparoscopy. The advantage of laparoscopy is the exploration of the contralateral side in search of an unrecognized hernia which could reveal itself later and represents the first line of reference in the event of recurrence [15]. Some teams therefore carry out a systematic surgical exploration of the contralateral inguinal region [15,17]. The herniotomy is supplemented by a hernia repair using a tensioning technique (Bassini, Schouldice, Mac Vay) or without tensioning (Lichtenstein) in older children (over 15 years old) or adults. However, some teams carry out a systematic hernia repair whatever the age [17]. In our series the hernia repair was carried out only in old children or adults. Communicating hydroceles often require a herniotomy because they rarely regress spontaneously. Non-communicating hydroceles and cord cysts should be monitored for up to one or two years due to the tendency to regress [18]. However, in our study all patients were operated on. Commonly reported postoperative complications were bursa hematoma, operating site infections, testicular atrophy, and recurrences [2,15]. We noted two cases of bursa hematoma. These hematomas are often due to insufficient hemostasis. As herniotomy is a clean surgery, wall infections are due to the lack of asepsis . Testicular atrophy is a consequence of testicular

ischemia secondary to scrotal hematoma, hernia strangulation and vascular damage to the cord during dissection. This is due to the use of inadequate instrumentation for infant surgery and by the inexperience of the operators [2].

Conclusion

Pathologies of the peritoneovaginal duct are frequent. They group together several pathologies dominated by hernias which are observed frequently in children under 5 years old. The major complication is strangulation which can be harmful to the intestines or testicles, hence the importance of early management as soon as a diagnosis is made. The postoperative operations are often burdened with complications, the most important of which is testicular atrophy which can compromise reproductive function. Reducing complications requires early treatment, improvement of the technical platform and surgical management by a well-trained team.

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