

# Diagnostic and Therapeutic Management of a Congenital Hernia of Jean Louis Petit at the Regional Hospital Center of Gaoua (Burkina Faso)

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## Abstract

**Introduction:** Jean Louis Petit's hernia is a rare lower lumbar hernia, especially in its congenital form. The objective of this clinical case is to illustrate the clinical manifestations, the diagnostic and therapeutic management of this congenital hernia in a second-level regional hospital. **Observation:** The patient was a male newborn on day zero of life who had a mass of the right flank measuring approximately 10 cm × 10 cm, which was mobile with the consistency of bowel without other malformations found. Abdominal X-ray and abdominal ultrasound supported the diagnosis by identifying a parietal hernia and abdominal CT confirmed the diagnosis by identifying the hernia in the inferior lumbar triangle. The newborn underwent herniorrhaphy under anaesthesia and the course was marked by death on day 10 postoperatively at home, probably due to multifactorial causes. **Conclusion:** This pathology challenges us on the need for the availability of a CT scanner, which is the gold standard for diagnosis, and the need for multidisciplinary collaboration (pediatrician, radiologist and pediatric surgeon).

## Keywords

Congenital Hernia, Jean Louis Petit, CHR Gaoua

## 1. Introduction

Jean-Louis Petit hernia is a lumbar hernia characterized by the protrusion of the omentum or intestine into the lower lumbar triangle [1]. It is an unusual form of hernia and even more so in its congenital form [2]. Its confirmatory diagnosis is mainly radiological by computed tomography (CT), hence the delay in diagnosis in countries with limited resources. Its management is surgical in order to avoid complications [3]. In this case report, we describe the problem of diagnosis and follow-up of a congenital hernia of Jean Louis Petit in a secondary regional hospital in Burkina Faso.

## 2. Observation

### 2.1. Reference Reason

The patient was S.F.; a male newborn received on day zero of life, referred from the district medical facility of Dano for swelling of the right flank noted at birth.

### 2.2. Background

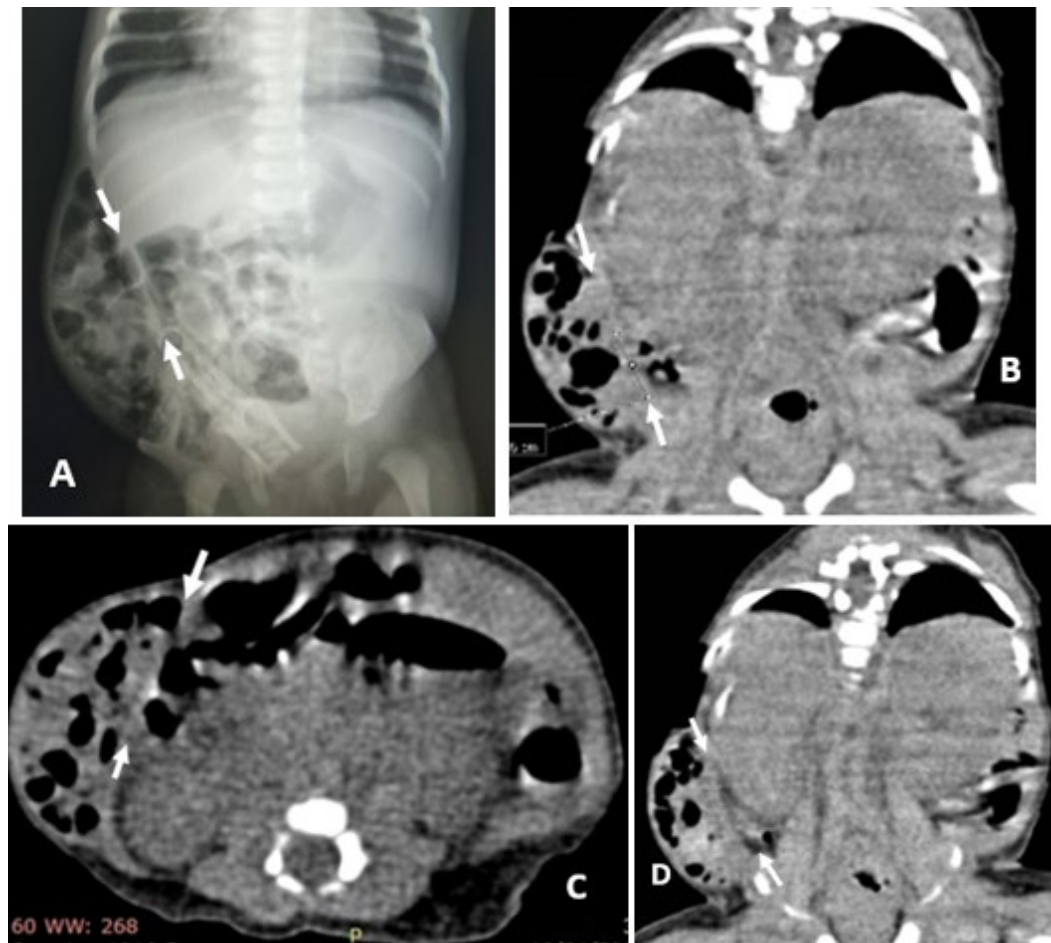
S.F. was born from a full-term pregnancy followed by three prenatal consultations without any apparent abnormality. However, no prenatal ultrasound examination or TORCH serological assessment (Toxoplasmosis, Rubella, Cytomegalovirus, Herpes) was carried out. This was due to a lack of resources, because in the study setting, the prenatal assessment is the financial responsibility of the pregnant woman. The delivery was vaginal at a primary medical facility, giving birth to a male newborn weighing 3370 grams with a height of 50 cm, head circumference of 33 cm, chest circumference of 34 cm, with an APGAR score of 8-9-10/10 without any need for resuscitation. There was no concern for parental inbreeding.

### 2.3. Clinical Examination

On general examination, the child was well-appearing and alert with normal vitals. Physical examination revealed a mass of the right flank measuring approximately 10 cm × 10 cm, which was mobile, with the consistency of bowel sensitive to palpation without abdominal distension or obstipation. The rest of the clinical evaluation for other associated malformations in the context of the polymalformation was normal.

### 2.4. Diagnostic Data

Standard blood tests (CBC, CRP, Blood glucose, BMP) resulted in normal. Abdominal ultrasound and X-ray of the abdomen without preparation showed a parietal hernia. The abdominal CT scan identified a defect in the abdominal wall at the level of the right inferior lumbar triangle with herniated loops of bowel in a subcutaneous hernia sac (**Figure 1**). In addition, skeletal X-ray and cardiac ultrasound did not find any vertebral, limb or cardiac abnormalities. Otherwise, ultrasound and abdominal CT scan did not find any renal or anal abnormalities.



**Figure 1.** X-ray of the abdomen without preparation (A); abdominal CT scan in axial section (C) and coronal reconstruction ((B) (D)) of the newborn with a defect in the abdominal wall at the level of the right inferior lumbar triangle with digestive loops in a hernia sac in the subcutaneous.

### 2.5. Management

After confirmation of the diagnosis by CT scan, S.F. was resuscitated, followed by a herniorrhaphy in the operating room under general anesthesia. The progressive dissection of the different planes made it possible to identify the hernia bounded by the lateral edge of the dorsal muscle, the lateral edge of the external oblique muscle, and the iliac crest inferiorly. The hernia sac was opened, and the orifice was closed transversely by bringing the muscles together using absorbable Vicryl sutures.

The immediate postoperative course was simple, marked by anticipated pain in the operative incision, characterized by crying, for which S.F. received injectable paracetamol 20 mg every 6 hours. The evolution after discharge from hospitalization was marked by the death of the patient at home, which occurred on day 20 of life and day 10 after surgery, probably of multifactorial cause (bacterial superinfection related to the lack of local follow-up care and lack of hygiene and other causes related to neonatal morbidity and mortality such as hypoglycemia, respiratory distress).

### 3. Discussion

Lumbar hernias are rare pathologies and constitute less than 2% of all hernias; only 5% of them are Jean Louis Petit hernias, the congenital form of which is very rare, estimated at 20% [1]. Our clinical case is in line with this observation, hence the interest of this report.

In this case report, our patient was male, as found in the series by Rattan *et al.* [4], where there was a sex ratio of 6:1. The male sex would therefore be a factor favouring the occurrence of Jean Louis Petit's hernia.

The hernia was unilateral and located on the right in our patient, as in the study by Rattan *et al.* [4], where it was largely unilateral. Notwithstanding its rarity, Jean Louis Petit's hernia most often manifests itself unilaterally.

No associated malformation was found in our patient, unlike other authors, where the lower lumbar hernia was associated with vertebral malformations [5].

The confirmatory diagnosis of our patient was made possible thanks to the abdominal CT scan, as described by several authors [2]. Thus, the CT scan remains the essential tool for the preoperative diagnosis of Jean Louis Petit's hernia.

Our patient underwent primary herniorrhaphy in the operating room by sutured reconstruction of the abdominal wall, as in the cases reported in the literature [3] [4]. Indeed, surgery remains the treatment of choice for Jean Louis Petit hernia, hence the interest of laparoscopy (less painful with a minimal incision and allows to look for a contralateral hernia), which was not available in our hospital.

The postoperative course in our case report was marked by death at home on day 10 postoperatively and day 20 posthospitalization; this could be explained by other factors related to neonatal morbidity and mortality in our country, including bacterial infection, hypoglycemia, respiratory distress and delay to presentation.

### 4. Conclusion

The rarity of Jean Louis Petit's hernia, especially in its congenital form, reinforces the importance of reporting this case report in a country with limited resources. This pathology should be suspected in the presence of any lumbar swelling or mass in the newborn and abdominal CT scan remains the preferred examination to confirm the diagnosis. Its management requires a multidisciplinary collaboration including pediatrician, radiologist and pediatric surgeon.

### Conflicts of Interest

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

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