An unusual case of bowel obstruction in an infant

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Abstract

Introduction
Inguinal hernia is a common pathology in children. Its diagnosis is often easy to do by the clinical examination. Sometimes symptoms can be atypical and recognition less immediate.

Case report
We describe a case of a 2 months-old boy who presented radiological signs of bowel occlusion but unclear symptoms and instrumental signs, for which an accurate clinical examination lead us to suspect an incarcerated inguinal hernia. The early intervention recovered his pathology, with an excellent outcome.

Discussion
In the present case, symptoms, diagnostic signs and absence of inguinal evident bulging initially orientated the diagnosis to an abdominal problem. Only an accurate examination of the inguinal region allowed performing the diagnosis of complicated inguinal hernia.

In cases like the present, the possibility of a complicated inguinal hernia should always be kept in mind and the clinical examination should always be oriented to the research of an inguinal problem before to carry out further diagnostic investigations.

Keywords: inguinal hernia, bowel occlusion, children, complicated inguinal hernia

Introduction

Inguinal hernia is a common pathology in childhood. The most common clinical sign is the inguinal bulging. Incarceration results from entrapment of bowel within the hernia sac, with symptoms and signs of the bowel obstruction. Sometimes atypical signs of complicated hernia can divert the diagnosis. We describe a case of a 2 months-old boy who presented radiological signs of bowel occlusion but unclear symptoms and instrumental signs, for which an accurate clinical examination led to the diagnosis of incarcerated inguinal hernia.

Case report

A 2 months-old boy, consulting the emergency paediatric department for emesis and food refusal for the last 48 hours, vomiting after every feeding, no gas or faecal emission since 24 hours. He had no significant prior medical history. Physical examination performed by paediatrician revealed good general conditions, no fever, a relative diffuse abdominal tenderness without defence. No appreciable inguinal or scrotal swelling. He had negative inflammatory markers. The abdominal radiography showed bowel distension and multiples intestinal air-fluid levels (Fig. 1).

Fig. 1 Abdominal plane upright radiograph shows small complete bowel obstruction, air-fluid levels in the dilated small bowel loops and absence of gas in the large intestine.

The abdominal radiography showed a loop around its mesenteric pedicle, which appeared thickened and congested. The abdominal radiograph and the ultrasound features raised the suspect of intestinal volvulus, that prompted a surgical consultation.

Surgical consultation stated the lack of bilious vomiting and no stagnation from the nasogastric tube, the mild abdominal tenderness with no distension, and revealed a slight thickness of the right spermatic cord, that prompted to perform an inguinal-scrotal US. Imaging showed in the right inguinal canal the presence of some aperistaltic intestinal loops, stretched by fluid. The presence of regular vascular signals of the bowel and the good general conditions of the patient led us to try a manual reduction of the incarcerated right inguinal hernia, successfully. The infant stopped vomiting and his inguinal hernia was operated 2 days later with good results and no further complications.

Discussion

Almost the totality of inguinal hernia in children is indirect, due to the patency of the processus vaginalis. In females, the canal of Nuck corresponds to the processus vaginalis and it communicates with the labia majora. In most of the children with patient...
processus vaginalis (80% at birth), a spontaneous closure occurs within the first 6 months of age\(^1\). The right side seems to get closed early than the left one\(^1\).

The incidence rate of inguinal hernia in childhood is between 0.8% and 4.4%\(^2\). The peak incidence concern the first few months, while the highest incidence is reported in premature babies (16-25%)\(^3\). Males are more affected than females, with a ratio between 3:1 and 10:1\(^4\). Inguinal hernia is usually detected by parents or by paediatricians during a routinely examination. Clinical signs such as inguinal bulging, a silk sign and thickening of the spermatic cord can help to detect an inguinal hernia. Incarceration represents the most common complications associated (30 per-cent during the first year of life)\(^5\), its incidence is higher in the first 6 months of age\(^1\). Incarceration results from entrapment of bowel within the hernia sac, predominantly at the internal ring. Symptoms and signs of an incarcerated hernia are those of the bowel obstruction: vomiting, distension and constipation. If not reduced, incarcerated hernia may result in compromission of the incarcerated contents and the testis, to the infarction and the peritonitis. Because of this risk, it is recommended to perform the selective repair within 14 days from the diagnosis in all children less 2 years of age\(^1\); recent evidence assessed that after this time the risk of incarceration get double\(^6\). In 2003 Kais et al demonstrated the presence of a ‘hernia sac ring’ (HSR) in 56 of 784 patients operated for inguinal hernia over a period of 9 years\(^6\). The HSR represent a fibrous or fibro muscular structure within the wall of the sac that plays an important role in the hernia’s incarceration\(^6\). In their experience patients with HSR were three times more liable to incarceration than others\(^6\). The manual reduction by gentle compression, with a delayed intervention within 24 to 48 hours, is now preferred to the early intervention, with a success in 70% to 85% of patients and the advantage to avoid dissection through the oedematous inguinal canal\(^7\). Anyhow, the risk of re-incarceration may be kept in mind during the wait. In the present case, symptoms, diagnostic signs and absence of inguinal evident bulging initially oriented the diagnosis to an abdominal problem. Only a complete abdominal and inguinal examination allowed to guide the diagnosis to a complicated inguinal hernia. Sometimes performing instrumental exams and evaluating them before an accurate clinical examination can result in a pitfall and can lead to a wrong diagnosis and treatment.

In presence of an infant without clinical history of inguinal hernia and radiological signs but unclear symptoms of intestinal obstruction, is mandatory to evaluate also the inguinal region in order to exclude a complicated inguinal hernia. Medical team in emergency department should always keep in mind this eventuality and perform a clinical examination as accurate as possible before to carry out further diagnostic investigations.

References