

Dolichocolon in low-birth-weight infants in 7 cases

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Abstract

Dolichocolon is a congenital malformation characterized by an abnormally long and tortuous colon. It is a rather rare pathology, the lesion mechanism of which is not clear. The sigmoid is considered the most commonly affected part.

Some authors believe that the disease is congenital, resulting from an impairment of the autonomous intestinal nervous mechanism, others believe that it is acquired secondary to constipation or dietary or endocrine deficiencies.

The clinical picture is marked by the installation of a classic triad: chronic constipation, generalized abdominal distension, and abdominal pain.

With the advent of X-rays and the barium enema, these abnormalities are easily recognized. An unprepared abdomen may show aerocolia with the presence of fecal impaction. A barium enema, is usually sufficient to conclusively confirm the abnormality.

Many patients require only symptomatic treatment of constipation. Surgical treatment is reserved for special cases.

Our work, concerns patients hospitalized at the national reference center in neonatology at the children's hospital of rabat during the year 2021-2022. The study concerns seven cases who were hospitalized at day 1 of life for respiratory distress and in whom the diagnosis of dolichocolon was made after the observation of the clinical picture of this pathology.

Key words: Colon; Long; Constipation; Abdominal Distension; Dolichosigmoid; Barium Index

1. Introduction

The term "dolichocolon" comes from the union of two Greek words: dolichon and colon. The word "dolichon" means "elongated", while the word "colon" refers to the intestine; and therefore, the literal meaning of dolichocolon is "elongated colon". It should not be confused with an abnormally large intestine, called megacolon.

It is an abnormal elongation of part or all of the large intestine, which then describes multiple loops; the redundancies may be located on the right, middle or left side of the colon and at the level of the flexures.

Its etiology is not yet well defined. The diagnosis is both clinical and radiological and the treatment is primarily medical, symptomatic consisting in fighting constipation. Surgical treatment is performed only in case of complications such as volvulus or in cases of very severe and disabling constipation resistant to any laxative therapy.

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Objective

The objective of our study is to:

- To detect the clinical signs of dolichocolon early
- To carry out complementary examinations allowing the diagnosis of certainty.

2. Material and methods

We conducted a retrospective study of 7 cases of dolichocolon, collected at the national reference center in neonatology at the Children's Hospital C.H.U Rabat during a 24-month period, from January 2021 to January 2022.

The parameters studied were: age, sex, time to diagnosis, symptoms, para-clinical examinations performed to make the diagnosis, treatment performed and evolution.

The diagnosis was retained on clinical and radiological arguments.

3. Results

Table 1 Description of the population

Patients	Case n°1	Case n°2	Case n°3	Case n°4	Case n°5	Case n°6	Case n°7
Gestational age	30 SA	29 SA	40 SA	35 SA	36 SA	36 SA	38 SA
Sex	Female	Female	Female	Female	Male	Male	Male
IDP	1100 g	900 g	2650 g	1550 g	1800 g	1350 g	1400 g
Reason for admission	Respiratory distress	Prematurity	Respiratory distress	Prematurity	Respiratory distress	Prematurity	IUGR
Clinical signs	Abdominal distension, painful abdomen, constipation	Abdominal distension, painful abdomen, constipation	Abdominal distension, painful abdomen, constipation	Abdominal distension, painful abdomen, constipation	Abdominal distension, painful abdomen, constipation	Abdominal distension, painful abdomen, constipation	Abdominal distension constipation
ASP	Aerocolia	Aerocolia, fecal impaction	Aerocolia	Aerocolia, fecal impaction	Aerocolia, fecal impaction	Aerocolia, fecal impaction	Aerocolia
Barium index	Dolichosigmoid	Dolichosigmoid	Dolichocolon	Megadolichocolon	Dolichocolon	Dolichocolon	Dolichosigmoid

The clinical picture is characterized by abdominal distension and constipation during the first days of life, occurring in our 7 patients; five of whom were premature between 29 and 36 weeks of amenorrhea and two of whom were at term IUGR with low birth weight. Four patients were female and three were male. The exploration of these clinical signs required the realization first of an abdomen without preparation and then of a barium index which confirmed the diagnosis in our 7 patients.

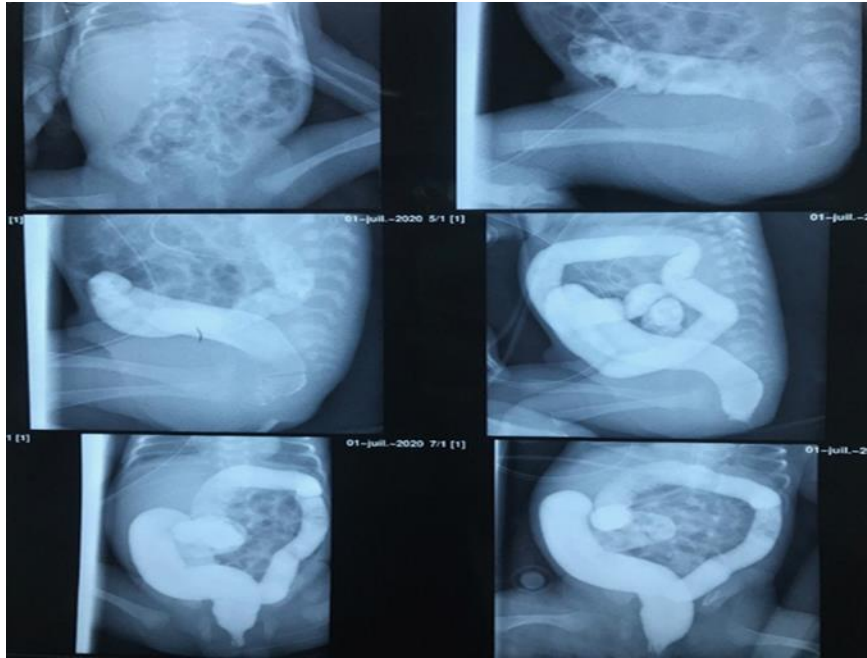


Figure 1 A premature baby of 30SA, female, aspect of dolichosigmoid on the X-ray after a barium index

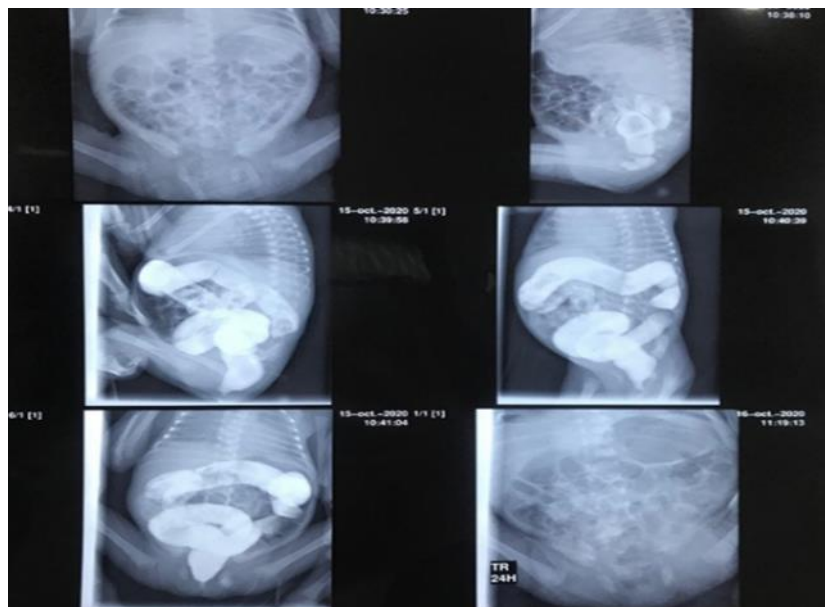


Figure 2 29 SA premature baby, female, barium index film showing a dolichosigmoid

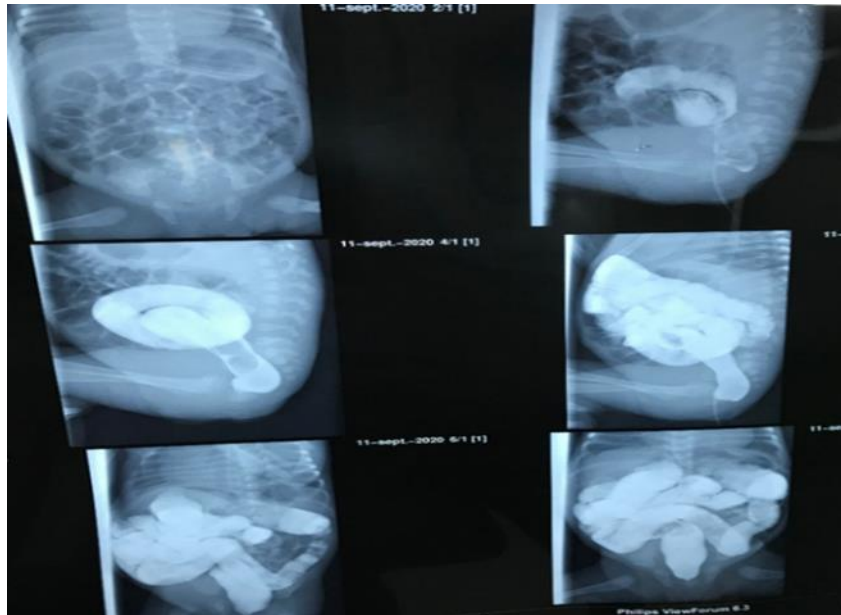


Figure 3 Full-term newborn, female, barium index showed a dolichocolon



Figure 4 A 35-week premature female, image of megadolichocolon

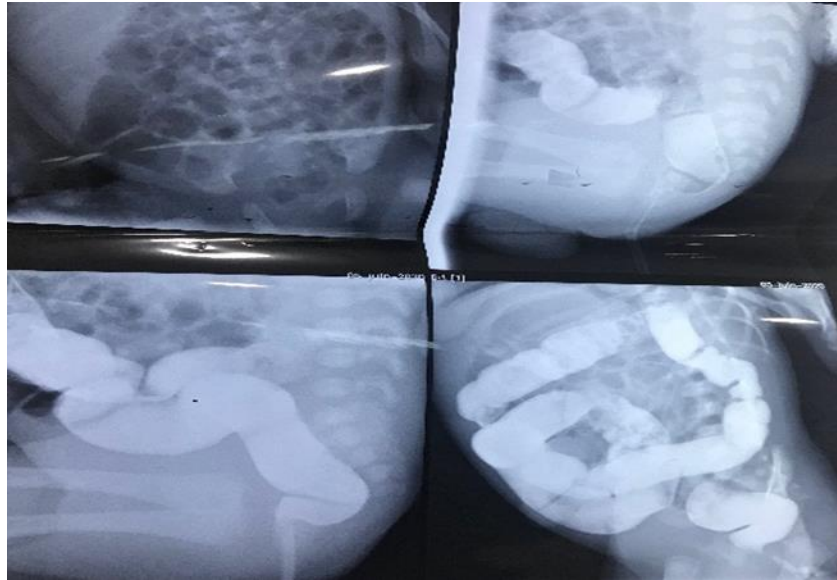


Figure 5 A premature male at 36 weeks of amenorrhea, the barium index showed a dolichocolon



Figure 6 A premature male at 36 weeks of amenorrhea, a barium index was performed showing a dolichocolon

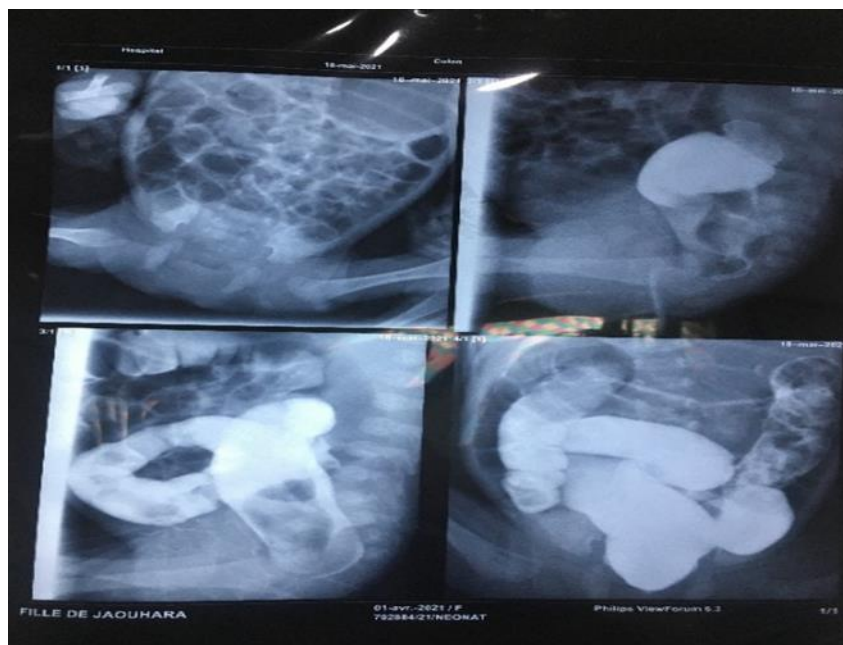


Figure 7 Full-term male neonate, barium index showed a dolichosigmoid

The treatment was symptomatic with digestive rest, placement of a gastric tube in siphoning, decompression of the abdomen, and stimulation of the transit, then we advanced in feeding gradually after resumption of the transit and improvement of the state of the abdomen.

4. Discussion

Most of the studies done about dolichocolon concern an elderly population whose diagnosis was made during their adult life; our study concerns a much younger population: newborns [1-5].

Dolichocolon is defined as a long colon of normal caliber. This situation could be either:

- Acquired: secondary to constipation which results in a progressive lengthening of the colon [2].
- Congenital: often due to a persistence of the fetal disposition, where the left colon accolement did not continue downwards and left a long inter sigmoidal fossa [2].

It is sometimes associated with excessive dilation of the colon (megacolon). This is called dolichomegacolon or megadolichocolon.

The exact causes of dolichocolon in newborns are not clearly defined, but some studies have suggested that it may be associated with neurological disorders or genetic factors [7].

Digestion occurs correctly, but the food bolus has to travel a long distance before it is expelled. Along this length, the colon absorbs the liquid contained in the stool to recover the nutrients contained in it. As a result, the stool that arrives in the rectum to be expelled is harder than average, and can cause pain during defecation.

The constipation caused by dolichocolon appears very early. This fecal stasis leads to significant abdominal bloating accompanied by abdominal pain stimulating digestive intolerance.

The radiological diagnosis of dolichocolon is based on an unprepared abdomen (UAP) and a barium index. The thoraco-abdominal radiograph may show aerocolia with the presence of fecal impaction [1-4-6]. The barium enema allows the diagnosis to be made conclusively [1].

Except in severe cases, surgical treatment is not systematic. There is a risk of endangering the proper functioning of the intestine by damaging the nerves and muscles. Medical treatment is based on abdominal massages accompanied by

stimulation of the transit; surgical treatment is only practiced in cases of very severe and incapacitating constipation, or in phenomena of sub-occlusion, notably in cases of volvulus [7].

5. Conclusion

Dolichocolon in low-birth-weight neonates is a relatively rare malformation but may be associated with potentially serious complications. A few studies have emphasized the importance of appropriate evaluation and management to prevent long-term complications.

Our work concerns the cases of dolichocolon that were hospitalized during the year 2021 - 2022. This pathology is rare in the neonatal period, and has an early revelation in the first days of life. The clinical picture is marked by abdominal distension and constipation. The barium index allows a diagnosis of certainty, and most often the involvement concerns the sigmoid colon. Treatment is generally symptomatic, with a good clinical evolution.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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