Rectal Duplication with Gastric Heterotopy: Case report

Bouabdallah Y1, Boujraf S2, Afifi A1, Chater L1, Khattala K1, Rami M1, Maaroufi M3, Atmani S3

1Pediatrics Surgery Department, University Hospital of Fez, 2Biophysics and Clinical, MRI Methods Department, Faculty of Medicine and Pharmacy of Fez, 3Radiology Department, University Hospital of Fez, Morocco.

Abstract: Enteric duplication could occur through the entire alimentary tract. We describe a rectal duplication cyst with heterotopic gastric mucosa in a child. MRI scan is shown to be useful for suggesting the diagnosis. The treatment is complete local resection of the rectal duplication.

Index Word: duplication, rectal, MRI, surgery.

INTRODUCTION

Duplication of the digestive tract is a rare malformation, and the rectal localization represents 5% of this pathology. The existence of a gastric heterotopy in rectal duplication is exceptional since only 8 cases of this association were reported in the literature. The goal of this study is to show the value of the MRI for suggesting the diagnosis and orientation towards the right therapeutic approach.

CASE REPORT

A 12 years old female patient was followed up for urinary tract infection and a past history of lumbosacral trauma (18 month earlier). She presented with pelvic and low back (spine) pains without any sensory-motor disorder. A retro rectal mass was found on rectal examination. The postero-anterior and lateral x-rays of both spine and pelvis did not show any abnormalities. Abdominal and pelvic ultrasonography showed a 4.5 cm in longest diameter, right well-circumscribed, oval adenexal cystic mass and probably originating from ovaries.

The pelvi-abdominal MRI showed an ovoid mass at the level of the pre-sacral region, 65 X 50 mm in diameter presenting hyper-signal content in T1 and T2 weighted images with a regular thickness wall of 2 mm (Figures 1, 2 and 3). The mass lies towards the left side of the rectum with no infiltration of the surrounding structures. The uterus and two ovaries were normal as well as the lumbar spine. The child was operated upon through a posterior sagittal incison with excision of the coccyx. A thick wall mass was exposed with greenish contents looking like meconium. Subtotal resection of the mass was done, leaving the adjacent part of the rectum. In simpler terms, a mucosectomy was achieved. The pathological examination of the removed mass confirmed a digestive duplication with a muscular wall of two layers and a mucous membrane of gastric type. The post-surgery recovery was uneventful. Postoperative follow up with ultrasound did not reveal any recurrence or residual mass for 6 months following surgery.
The digestive duplication is a congenital abnormality which could affect any part of the alimentary tract, but the rectal affection is the least frequent. A total of 70 cases of rectal duplication are reported in the literature. The first case was reported by Middeldorf et al in 1885. They described a lesion which could be cystic or tubular showing the three characteristics proposed by Ladd and Gross in 1940; namely a contact with the normal digestive tract, communicating or not; secondly, a wall with double muscular layers; and thirdly, the presence of mucous of a digestive type mucosa.

The presence of gastric heterotopy can cause ulcerations and bleedings. Other tissues such as pancreatic and respiratory, was reported as well. Generally, rectal duplications fill the retro-rectal space, but anterior cysts are also found it can be associated with other and more complex malformations as sacral agenesis or anorectal malformation (Currarino syndrome)

The clinical symptomatology is variable according to the size of the duplication, and its localization. It yields either a compression of the near-by, joined viscera, presententing with constipation, rectal prolapse, urinary and haemorrhoidal infection; or ulcerations and bleedings occurring due to the presence of heterotopy of gastric mucous. Cases of rectal duplication manifested by a peri-anal fistula or abscess has been reported in adult.

The differential diagnosis depends on the clinical symptomatology; includes sacrococcygeal teratoma, anterior meningocele, dermoid cyst and the Crohn's disease. The magnetic resonance imaging allows the exact evaluation of the association, evoking the diagnosis when cystic shapes are shown. The scintigraphy using TC99 is useful when a gastric heterotopy is suggested, in this study lateral views is essential to avoid superposition with the vesical activity.

The goal of the treatment is to avoid complications. It consists of excision of the duplication with neither sphincteric nor rectal injuries. The access depends on the level of the tumor: posterior sagittal, trans-
coccygeal, trans-anal or through abdominal access.\textsuperscript{9, 13} The ideal technique consists of a total resection of the mass, but generally the excision is partial to protect the adjacent rectum. Mucosectomy is also achieved to avoid injury of the rectal blood supply because the cyst and the rectum have a common wall.

**CONCLUSION**

Rectal duplication with gastric heterotopias is a full entity generating its one set of complications. The diagnosis is suggested through the magnetic resonance imaging and confirmed by histological investigation.

**REFERENCES**