International Journal of Radiology Research
www.radiologyjournal.in
E-ISSN: 2663-4562, P-ISSN: 2663-4554
Received Date: 14-11-2018 Accepted Date: 18-12-2018; Published: 18-01-2019
Volume 1; Issue 1; 2019; Page No. 38-40

Tomodensitometric aspect of acute intussusception in adult: Report of two cases

Andrianjakamanana Tolojanahary Herizo[1*], Andrianah Emmylou Prisca Gabrielle[2], Rajaonarison Ny Ony Narindra Lova Hasina[3], Ahmad Ahmad[4]
[1-4] Medical Imaging Center, Hospitalo-univeristy Center Joseph Ravoahangy Andrianavalona, Antananarivo Madagascar, Madagascar

Abstract
Intussusception is a rare condition in adults and accounts for 1-5% of intestinal obstruction cases. Its clinical symptoms are poor and misleading. Medical imaging is one of the primary means that facilitates their diagnosis. The purpose of this article is to describe two rare cases of intestinal intussusception in adults. We report two cases of acute and chronic intestinal intussusception in adults, revealed by an occlusive syndrome and diagnosed by Computed Tomography. Their causes are organic, malignant and rare. The first case is a metastasis of a pulmonary adenocarcinoma and the second is an Epstein Barr Virus (EPV) positive Burkitt lymphoma.

Keywords: intestinal intussusception, adults, CT scan

Introduction
Acute intestinal intussusception happens when an upstream segment slides into a downstream part of the intestines due to peristalsis [1]. It is a common affection in children but is rarely observed in adults as it represents 1 to 5% of acute intestinal obstruction [2]. The purpose of this article is to describe two rare cases of intestinal intussusception in adults. Computed tomography is an excellent diagnosis tool in adults [3, 4] it helps screen for complications and associated causes.

Observation
First case
A 50-year-old woman presented to the Emergency Department an alteration of her general status, a moderate abdominal pain which persisted for three days associated with constipation, nausea and vomiting for five days. All these symptoms evolved within a feverish status. This patient has been diagnosed with a pulmonary adenocarcinoma with multiple metastases. She is palliatively treated by chemotherapy. Her physical examination found a distended, painful abdomen, without neither tenderness nor abdominal mass. Her blood tests showed an inflammatory syndrome. Imaging examinations: An abdominal X-ray has been performed while she was lying flat and showed small intestine distension images as "stack of plates" meaning an intestinal obstruction (Figure 1).

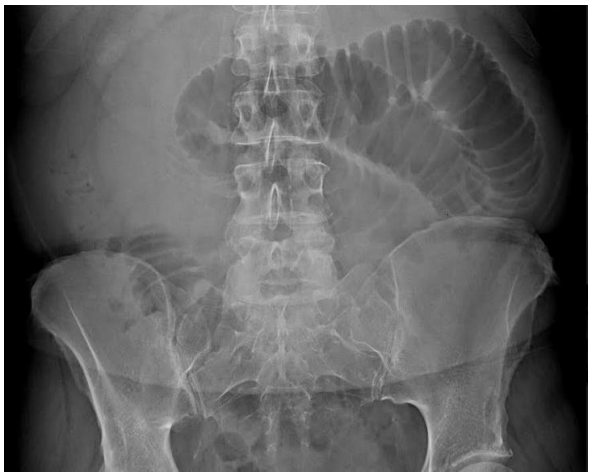

Fig 1: abdominal X-ray, showing small intestine distension images as "stack of plates"

An abdominopelvic CT scan was performed, without and with injection of contrast product, and demonstrated an hypogastric tissue mass measuring 79 mm in height, 37 mm in anteroposterior diameter and 41 mm in transverse diameter, (Figure 2).

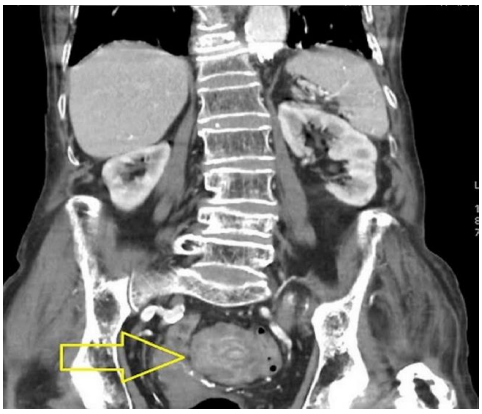

Fig 2: abdominopelvic CT scan with injection of contrast product, on coronal reconstruction, showing an hypogastric tissue mass

The tissue mass appeared as a cockade in the axial section image and as a sandwich in the sagittal section image (Figure 3), these are typical images of small bowel intestinal obstruction. They were associated with upstream small bowel multiple air fluid levels. There was no pneumoperitoneum or peritoneal fluid effusion suggestive of suffering.

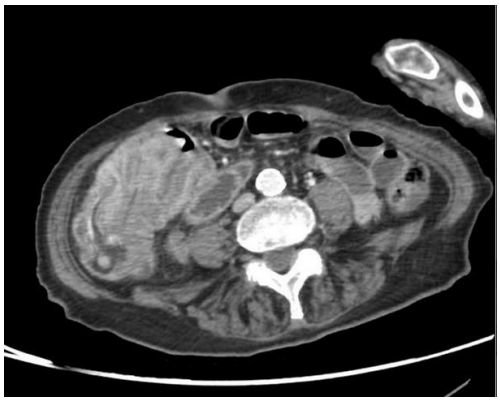

Fig 3: axial section of the scanner showing a sandwich mass on the right iliac fossa evoking the intussusception pudding

Multiple hypodense images, enhanced by contrast product, were demonstrated within the liver evoking metastatic lesions (Figure 4). Mesenteric lymphadenopathies have been detected.

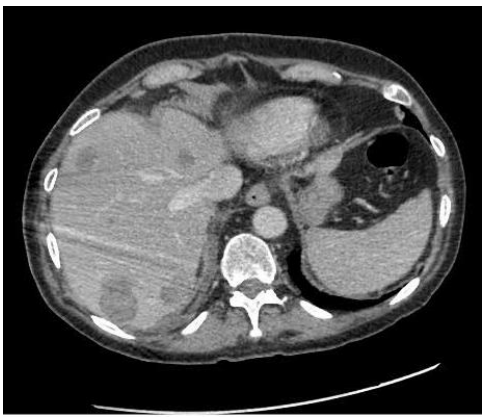

Fig 4: Fig 3: Axial CT scan showing the liver with multiple hypodense nodule suggestive of secondary lesions

She underwent exploratory laparotomy surgery, which confirmed ileo-ileal acute intussusceptions, followed by a segment resection of small bowel and a mechanical anastomosis.

The surgical piece was sent to the pathological anatomy and confirmed a chronic ileo-ileal intussusception due to a metastasis of pulmonary adenocarcinoma.

Second case

A 49-year-old man presented to the Emergency Department an acute abdominal pain without any intestinal transit disorder. Blood test results were normal. In his previous medical history were found an arterial hypertension, an appendectomy, cholecystectomy and a lumbar discal hernia surgery. Air fluid levels with hydric tone opacity in the right iliac fossa have been demonstrated with the abdominal X-ray. The abdominopelvic CT scan showed a mass in the right iliac fossa suggesting an ileo-colic intussusception. There were no sign of intestinal suffering such as peritoneal effusion or inflammatory thickening of the walls. The colonoscopy revealed a ten centimeter atypical lesion of the right colon. A coelioscopic right colectomy was undertaken after case-discussion with the digestive pathology federation. Anatomical pathology examination result confirmed a malignant Burkitt lymphoma EBV positive tumor.

Discussion

Epidemiologically, acute intestinal intussusceptions are common affection in children with a rate of 90%, but rare in adults with a rate of 5% [5, 6]. Some authors report in their studies that women are more affected than men and that the median age is between 49 and 54 years old [7, 8, 9].

Clinically, the symptoms of this pathology are nonspecific. It can be revealed by ordinary abdominal pain without alteration of the general status, with either a progressive subocclusive syndrome which gives it a chronic character or an acute occlusive syndrome right away [10].

Palpation of a mass is difficult and limited in patients with abdominal bloating and obese [11].

From an imaging technique point of view, computed tomography is the best choice [3, 4]

Abdominal X-ray is moderately sensitive and might even be useless for the diagnosis of this pathology. Its results vary from one person to another, it might help in screening intestinal complications though, such as an intestinal perforation which appears with an image of pneumoperitoneum. An opaque hydric tone image in the right hypochondrium gives rise to the suspicion of intestinal intussusception [12]. Ultrasonography is less sensitive than CT scan. The images remain the same as in children intestinal intussusceptions. They appear as a cockade, a target or an eight in transverse section images and as a sandwich or a pseudo-kidney on longitudinal section images [12, 13, 15]. Abdomino-pelvic CT scan is highly sensitive to confirm the diagnosis of intussusception [3]. Its implementation consists of a non-injected abdomino-pelvic acquisition and an iodized contrast injected image taken on arterial and veinous phase [14] CT scan helps classify their topography, in small or in large bowel, screen for complications and seek for their causes [1]. Acute intestinal intussusception appears on CT scan as a tissular density mass corresponding to the edematous wall with eccentric curving bow shape image corresponding to the mesentery. Invaginated wall

might be separated from the intestinal wall by air or contrast product (coil-spring sign). The intussusceptions directly appear as multiple hypodense and hyperdense concentric rings. CT scan identifies also the causal lesion, assesses the distension of the upstream parts of intestines. An ischemic suffering due to strangulation of the vascular pedicle, an edematous thickening of the walls and the mesentery invaginated wall appear as an homogeneous kidney-shape mass which constitutes a gravity sign and an indication for surgery [15]. Medical imaging allows to choose the treatment, between reduction and resection surgery, depending on the presence or not of suffering [16].

The cases reported in this study are of colo-colic and ileo-ileal types with organic malignant origin.

The etiologies of intussusceptions may relate to age. Younger people have milder causes than older ones [1]. Organic etiologies are more frequent and can be classified according to their location (small or large intestine). Lymphoma, metastases and Meckel Diverticulum are the most frequent causes of small intestine intussusceptions [1, 17]. Our cases support the literature.

Adenocarcinoma and lipoma are the primary causes of colic intussusceptions [1, 4]. Intestinal intussusceptions are rarely idiopathic in adults [18].

The treatment is always a surgical reduction if there is no sign of suffering or an organic malignant cause visualized by imaging [1]. Resection is recommended to limit metastatic seeding [11, 19]. Laparoscopy can make a contribution to the diagnosis and treatment but is limited by distended intestines [11].

Conclusion

Acute intestinal invaginations are rare conditions in adults. Physical examination results are not specific. CT scan is the best diagnosis tool and helps orienting the treatment. Malignant organic causes are frequent etiologies. They require multidisciplinary care.

Reference

1. Young H, Kim and coll. Adult intestinal intussusception CT appearances and identification of a causative lead point. Radiographics. 2006; 26:733-744
2. Ahn JHSC, Lee Kj, yung Ys. A A Clinical Overview of a Retrospective Study About Adult Intussusceptions Focusing on Discrepancies Among Previous Studies. Dig dis Sci. 2009; 54(12):2643-9. [PubMed]
3. Marinis A, Yiallourou A, Samanides L. Intussusception of the bowel in adults: a review. World J Gastroenterol. 2009;15:407-11. [PMC free article] [PubMed]
4. Oukachbi N, Bronzes N. Invagination intestinal de l'adulte due à un lipome de l'intestin grêle. Elsevier Masson. 2010; 34:413-424.
5. Azar T, Berger DL. Adult intussusception in adult institutionnal review. J an coll Surg. 1999; 188:390-395.
6. Huang BY. Ileocolic invagination in adult due to caecal carcinoma. Acta Chir Belg. 1999; 94(4):190-1. [PubMed]
7. Lebeau R, Koffi E, Diarré B, Amani A, Kovassi TC. Acute intestinal intussuceptiob in adults analysis of 20 cases. Ann Chir. 2006; 131(8):447-50.
8. Guillen Paredes MP, Campilo Soto A, Martin Lorenzo JG, Torralba Martinez JA, Cases Baldo MJ, Aguayo Albasini JL. *et al* Adult intussusception 14 cases report and their outcome. Rev EspEnferm Dig. 2010; 102(1):32-40. [PubMed]
9. Alexander R, Traverso P, Bolounduro OB, Ortega G, Chary D, Corwell III EE *et al*. Prolifingadult intussusception. Am J Surg. 2011; 202(4):487-491. [PubMed]
10. AbouNukta F, Gutweiln J, Khav J, Yvarok G. Giant lipoma causing a colo-colonic intussuception. Ann Surg. 2007; 73(4):417. [PubMed]
11. Elhattabi K. Les invaginations intestinales chez l'adulte: à propos de 17 cas. Pan Afr Med J. 2012; 12:17. [PubMed]
12. Del Pozo G, Albilios J. Intussusception in children: current concepts in diagnosis and enema reduction. Radiographics. 1999; 19:299-319
13. Chambon JP, Berthelot D, Quandalle P. IIA primitive de l'adulte reconnu par échographie. Ann chir, 2000; 125:291-2 Guide thérapeutique
14. Michèle Deneuville, Sylvie Beot, Frédéric Chapuis, Christophe Bazin, Hervé Boccaccini, Denis Regent. *et al* Imagerie des occlusions intestinales aiguës de l'adulte. EMC -Radiologie Et Imagerie Médicale Abdominale – Digestive, 1997, 1-0 [Article 33-710-A-10].
15. Omori H, Asahi H, Inoue Y. Intussusception in adults: a 21-year experience in the university-affiliated emergency center and indication for nonoperative reduction. Dig Surg. 2003; 20:433-439. doi: 10.1159/000072712. [PubMed] [Cross Ref]
16. Begos DG, Sandor A, Modlin IM. The diagnosis and management of adult intussusception Am J Surg 1997; 173: 88-94. [cross-ref]
17. DomizioP, Owen RA, Shepherd NA, Talbot IC, Norton AJ. Primary lymphoma of the small intestine: a clinicopathological study of 119 cases. Am J Surg Pathol. 1993; 17:429-442. CrossRef, Medline
18. Tsushimi T, Matsui N, Kurazumi H. Laparoscopic resection of an ileal lipoma: report of a case. Surg Today. 2006; 36(11):1007-11. [PubMed]