

Intestinal Invagination in Adults: About a Case at the “Mother-Child” Hospital Le Luxembourg in Mali

Cheickna Tounkara^{1*}, Oumar Amadou Malle¹, Amara Coulibaly¹, A. Boubacar Maiga², Sory Ibrahim Diawara², Kassim Kayentao², Bakary Tientigui Dembele³, Alhassane Traore³, Adégné Pierre Togo³, Lassana Kante³

¹Department of general surgery of the Hospital “Mother Child” Le Luxembourg, Bamako, Mali

²University of Sciences of Techniques and Technologies of Bamako Mali (USTTB), Bamako, Mali

³Department of General Surgery of the CHU Gabriel Touré, Bamako, Mali

Email: *tounk_ch@yahoo.fr

How to cite this paper: Tounkara, C., Malle, O.A., Couli baly, A., Maiga, A. B., Diawara, S. I., Kayentao, K., Dembele, B.T., Traore, A., Togo, A.P. and Kante, L. (2023) Intestinal Invagination in Adults: About a Case at the “Mother-Child” Hospital Le Luxembourg in Mali. *Surgical Science*, 14, 583-589.

<https://doi.org/10.4236/ss.2023.149063>

Received: June 14, 2023

Accepted: September 25, 2023

Published: September 28, 2023

Copyright © 2023 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Intussusception is a pathology of infants and young children. Its occurrence in adults is very unusual. In the vast majority of cases, it is secondary to a benign or malignant tumor. Small bowel malignancies are relatively rare, 1% - 5% of malignant tumors of the gastrointestinal tract. Acute intussusception, a rare pathology in adults, often presents with non-specific symptoms. Contrary to children, the organic origin remains preponderant in the elderly, where the origin of neoplasia must be suspected in first intention. We report the case of a 49-year-old patient admitted urgently from the Luxembourg “Mère Enfant” hospital center in Bamako, Mali, for an occlusive syndrome. Several abdomino-pelvic ultrasounds were performed in several clinics with mixed conclusions: Hydro-aeric distension and a cessation of matter and gas without a clearly visible mass (04/09/2022); Demonstration of the central hydro-aeric levels wider than high containing fine and regular folds corresponding to connivents whose aspect is in factor of left acute small intestine occlusion, to be completed by the surgical opinion (06/09/2022) and a third ultrasound showed a normal appearance of the liver, gallbladder, kidneys, pancreas, spleen, bladder and prostate; diffuse aero-colic distention without lesion of secondary appearance (21/11/2022). A frontal standing ASP dated 11/25/2022 showed hail-like hydro-aeric levels. Surgical management consisted of an open oncological resection of an obstructive bowel tumor with ileo-ileal invagination. The anatomopathological and immunohistochemical study of the surgical specimen concluded to diffuse small cell non-Hodgkin’s lymphoma, without vascular embolism. The resection limits pass into the healthy zone.

Keywords

Acute Intestinal Intussusception, Organic Etiology,
Digestive Lymphoma, Mali

1. Introduction

Acute intussusception in adults, unlike in children, is a rare manifestation occurring most often during a tumor (70% to 90% of cases) of a small bowel of malignant origin. It accounts for 1% to 5% of the etiologies of intestinal obstruction in adults [1] [2] [3]. Its mode of evolution is usually chronic or subacute [1] [4] [5] Acute intestinal intussusception in adults contrasts almost point by point with that of children in its clinical, etiological, therapeutic and prognostic aspects [2] [6] [7] [8] [9]. A history of recurrent abdominal pain and/or sub-occlusion should be sought in order to make an early diagnosis aided by the unprepared abdomen and imaging [10] [11].

Treatment in adults is surgery based on bowel resection [1] [12].

The aim of this work is to show the diagnostic difficulties faced with the forms of subacute intestinal intussusception (the occlusion not being frank) requiring numerous medico-surgical consultations and ultrasound examinations in this 49-year-old patient, admitted in an emergency from the Luxembourg “Mère Enfant” hospital center in Bamako, Mali, for an occlusive syndrome in Mali.

2. Observation

Mr. L.S., 49 years old, worker, admitted to the emergency room of the “Mère Enfant” hospital center in Luxembourg on 25/11/2022 for intense abdominal pain of intermittent onset with meteorism for 20 (twenty) days, accompanied by late postprandial fecaloid vomiting, an unquantified fever, a melena observed a few times, an alteration of the general state and without other accompanying sign. The history was unremarkable. General signs were dominated by no deterioration in general condition, moderately colored conjunctivae, weight = 54 kg; Height = 1.73 m; TA = 11/07 cm Hg and a temperature of 38.2°C.

The clinical examination found a painful, breathing, non-distended abdomen whose palpation found a periumbilical mass on the right, oval, well circumscribed, mobile compatible with a roll of intussusception and an inconstant cessation of matter and gas. Frontal chest X-ray, unremarkable; the unprepared abdomen (06/09/2022) showed central air-fluid levels wider than high simulating acute small bowel obstruction (**Figure 1**). The biological assessment of operability in emergency found a hemoglobin level equal to 11.2 g/dl (13 - 18 g/dl); hematocrit = 34.5% (40 - 55); a group/Rh = A (positive) A+; a negative thick smear and fasting blood glucose = 4.12 mmol/l (4.1 - 6.1).

Under general anesthesia with orotracheal intubation, we made a midline incision under the umbilical. When opening and exploring the abdominal cavity,

we observed an ileo-ileal intussusception tube more than one meter from the ileo-coecal valve containing a polypous organic mass inserted at the mesal edge, without hepatic metastasis. After deinvagination, we performed oncological surgical resection with end-to-end anastomosis and drainage of the abdominal cavity (**Figures 2-8**). The patient received ceftriaxone 1G postoperatively, metronidazole infusion morning and evening and filling solutions (two liters five hundred/day)



Figure 1. ASP on admission: Images of small bowel occlusion.



Figure 2. Acute intestinal intussusception.

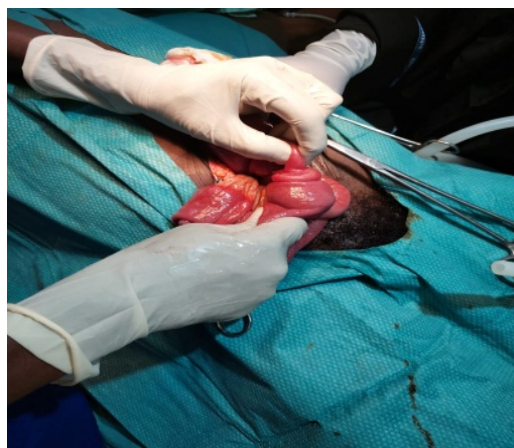


Figure 3. Disinvagination process.



Figure 4. Discovery of untraluminal mass.



Figure 5. Laborious disinvagination.

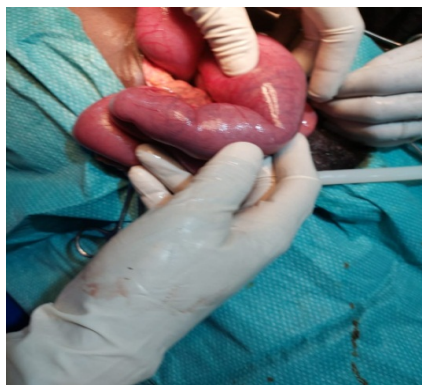


Figure 6. Complete intussusception.

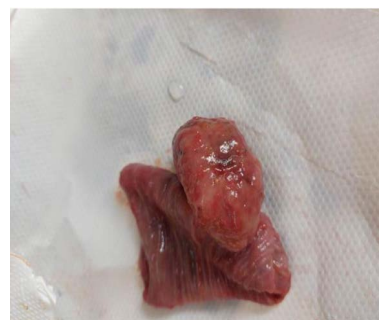


Figure 7. Profile resection piece.



Figure 8. Front resection piece

during the three days of diet. Dressings were applied every three days on an outpatient basis after the patient was discharged on D5. The biopsy of the specimen was done and showed diffuse small cell non-Hodgkin's lymphoma, without vascular embolism. The postoperative course was simple.

3. Discussion

Intussusception represents 1% to 5% of the etiologies of intestinal obstruction in adults, 0.003% to 0.02% of hospitalizations and the organic cause is found in 70 to 90% of cases [1] [3] [6] [13]. In children, intussusception is primitive in 90% of cases and idiopathic in 8% to 20%. The first intussusception was described by Barbette of Amsterdam in 1974 and Sir Jonathan Hutchinson, the first intussusception surgery in 1871.

According to the literature, intussusception is rarely observed in developed countries and relatively common in Africa, but the reasons are unknown; dietetics and parasites have been mentioned [1]. Anatomically, the ileum is considered to be the segment of the digestive tract preferentially affected by acute intestinal intussusception, and colorectal, colo-anal or jejuno-gastric intussusception are rarer [4].

The predominance linked to sex or to an age group has not been demonstrated even if the average age of the various published series was between 40 and 50 years [6] [7] [8] [10] [12]. Our patient was 49 years old.

The clinical symptomatology in our patient was polymorphic and most often misleading: pictures, acute and sub-occlusive occlusive of progressive onset extending from a few days to a few weeks, non-specific abdominal syndromes (modification of transit, diffuse abdominal pain, digestive bleeding) with or without deterioration of the general state also described by authors [2] [5] [6] [13] [14]. The clinical examination of the patient, often repetitive, was essential and allowed the demonstration of the invagination tube as in all the series [1] [2] [9] [10] [11] [12] [14].

Abdomen without preparation, repetitive ultrasound were an important contribution in confirming the diagnosis of intussusception in our patient and as in the literature [2] [4] [7] [8] [12].

Our therapeutic approach consisted of oncological segmental surgical resec-

tion with end-to-end small bowel anastomosis in one stage, as indicated in several series [1] [2] [6] [7]. However, the prognosis is enlivened in certain series with a high mortality: 9% to 30% [4], linked to the duration of the evolution, the hydro-electrolyte disorders and the extent of the gangrenous lesions.

4. Conclusions

Intussusception in adults is rare, often secondary to organ damage. It is characterized by its clinical polymorphism and especially its misleading repetitive character. The abdomen without preparation during the crisis, the ultrasound and especially the abdominal scanner has an essential interest in the diagnosis and its etiology.

The management of intussusception in adults is surgical, which consists of resection of the invaginated segment. Chemotherapy and/or radiotherapy are adjuvant treatments reserved for neoplasia with metastases.

Acknowledgements and Conflicts of Interest

The authors thank the patient who kindly gave her informed consent and there is no conflict of interest in relation to this article.

References

- [1] Hasnaoui, H., Bouhaddouti, H.E.I., Mouaqit, O., Benjelloun, E.I.B., Ousadden, A. and Taleb, K.A. (2019) Invagination intestinale aiguë révélant un lymphome T digestif chez l'adulte: A propos d'un cas. *The Pan African Medical Journal*, **33**, Article No. 153. <https://doi.org/10.11604/pamj.2019.33.153.18758>
- [2] Ayité A.E., Sako A.S. and Noma M. (1993) Les invaginations intestinales de l'adulte au Niger. *Médecine d'Afrique Noire*, **40**, 1-6.
- [3] Wetzels, F.M.K. and Geboes, K. (2005) Anatomie pathologique des néoplasmes épithéliaux et non épithéliaux de l'intestin grêle. *Acta Endoscopica*, **35**, 139-156. <https://doi.org/10.1007/BF03009099>
- [4] Ribault, L., Cuvillier, X. and Diagne, A.L. (1991) Les invaginations intestinales aiguës de l'adulte. *Médecine d'Afrique Noire*, **38**, 1-3.
- [5] James Didier, L., Chaibou, M.S., Saidou, A., Abdoulaye, M.B., Alassan, M.S.F., Daddy, H., Adamou, H., Adakal, O., Marouf, M.I., Maternité Issaka Gazoby Sidibé, T. and Sani, R. (2017) Invagination intestinale aiguë de l'adulte: Aspects diagnostiques, thérapeutiques et étiologiques. *European Scientific Journal*, **13**, 265-275. <https://doi.org/10.19044/esj.2017.v13n33p265>
- [6] Sanou, A., Zongo, N., Ouédraogo, T., Bonkougou, G., Ouangré, E., Ouédraogo, W.T.R., Kaboré, R.A.F., Zida, M., Traoré, S.S. and Sano, D. (2012) Les invaginations intestinales de l'adulte. A propos de 21 cas au centre hospitalier universitaire Yalgado Ouédraogo de Ouagadougou. *Journal Africain d'Hépatogastroentérologie*, **6**, 28-32.
- [7] Dr Frances, Tall, A. and Cordier, C. (2021) L'invagination intestinale aiguë de l'adulte. *Hépatogastro-Entérologie*.
- [8] Mellouki, I., Jellali, K. and Ibrahim, A. (2018) Les tumeurs du grêle: A propos de 27 cas. *Pan African Medical Journal*, **30**, 13. <https://doi.org/10.11604/pamj.2018.30.13.5407>

- [9] Didier, L.J., Chaibou, M.S., Abdoulaye, M.B. and Ide, K. (2017) Cancer de l'intestin grêle: Aspects épidémiologiques, cliniques. *Revue de Chirurgie d'Afrique Centrale*, **2**, 80-85.
- [10] Sanou, A., Zongo, N., Ouédraogo, T., Bonkougou, G., Ouangré, E., Ouédraogo, W.T.R., Kaboré, R.A.F., Zida, M., Traoré, S.S. and Sano, D. (2012) Les invaginations intestinales de l'adulte. A propos de 21 cas au centre hospitalier universitaire Yalgado Ouédraogo de Ouagadougou. *Journal Africain d'Hépatogastroentérologie*, **6**, 28-32. <https://doi.org/10.1007/s12157-011-0341-8>
- [11] Khalid, E., Fatimazahra, B., Driss, K., Abdelaziz, F., Abdellatif, R., Rachid, L., Nadia, B., Saad, B. and Najib, Z.O. (2012) Les invaginations intestinales chez l'adulte: A propos de 17 cas. *Pan African Medical Journal*, **12**, 17.
- [12] Ayité, A., Dossèh, E., Etey, K., Senah, K., Napo-Koura, K. and James, K. (1996) Les cancers de l'intestin grêle au CHU de Lomé (TOGO): A propos de 8 cas observés en 10 ans. *Médecine d'Afrique Noire*, **43**, 533-537.
- [13] Bruère-Ronzi, L., Mazet, P.H. and Schotte, T. (2015) Invagination de l'adulte. *Annales françaises de médecine d'urgence*, **5**, 263-264. <https://doi.org/10.1007/s13341-015-0562-3>
- [14] Franck-Eric, Y.M., Dr Togola, B., Dr Diakité, I., Pr Togo, A. and Pr Diango, D. (2015) L'invagination intestinale aiguë chez l'adulte. Thèse de Médecine, 15M54.