

COLON-COLONIC INVAGINATION CAUSED BY CECUM CANCER – A CASE REPORT

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Invagination (intussusception) represents telescoping of the proximal segment of the intestine (intususceptum) into the distal segment of the intestine (intususcepiens). We report the case of a patient with colon-colonic invagination caused by adenocarcinoma of the cecum as one of the rare causes of colonic invagination.

Multidetector computerized tomography of the abdomen and lesser pelvis is a diagnostic method of choice and intestine resection according to the principle of oncological resection is a treatment of choice in adults with malignant etiology of the disease.

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Key words: *invagination (intussusception), multidetector computerized tomography, colon, surgical treatment, resection*

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bloody mucus in stool, while in adults it is followed by subacute and chronic nonspecific problems (constipation, diarrhea, etc.) (5-7).

Case Presentation

The patient M. V., aged 82, was admitted with pain located paraumbilically to the right. The pain had lasted for three days and the patient had nausea without the urge to vomit. During the last three days, the stool had liquid consistency without blood and mucus. The patient denied febrility and dysuric problems. She was treated for hypothyreosis (she was taking Letrox) and denied other chronic significant diseases. She had pollen allergy and denied allergies to medications. Family history was not significant.

On admission, the patient was conscious, oriented in space, time and person, communicative. The skin and visible mucosa had normal color and hemodynamic compensation. She was afebrile, eupneic, normotensive, the tongue was moist and uncoated. The head, neck and thorax had no specific findings. The abdomen was in line with the thorax, soft on palpation, painful on deep palpation paraumbilically to the right where a 5x5 cm movable tumefaction could be palpated. Abdominal musculature was without defense and without peritoneal irritation on palpation. On auscultation, gurgling sound was heard above the abdomen. No abdominal herniation was present. The extremities were not swollen or deformed.

Laboratory findings were normal.

Multidetector computerized tomography (MD-CT) of the abdomen and lesser pelvis showed intussusception of the cecum with ileocecal valve into the

Introduction

Invagination (intussusception) was first mentioned in 1674 by Barbette of Amsterdam (1) and later, in 1789, it presented in more detail in a report by John Hunter as intussusception - telescoping of the proximal segment of the intestine (intususceptum) into the distal segment of the intestine (intususcepiens) (2). The first invagination operation was performed by Ser Jonathan Hutchinson in 1871 (3). The highest percentage of invagination is present in infants and children, whereas it is present in as much as 5% of adults (4).

Contrary to the younger population where the cause of intussusception is unknown, the most frequent cause in adults are malignant processes in the intestines, primarily in the colon.

The clinical picture of intussusception in infants and children is dominated by a sudden onset of the disease followed by cramps, vomiting and

ascending colon. Cecal fundus was located in the ascending colon towards the hepatic flexure. Mesenteric pedicle of the ileocecal segment protruding into colon lumen is observed. Signs of subocclusion were observed in the small intestine.

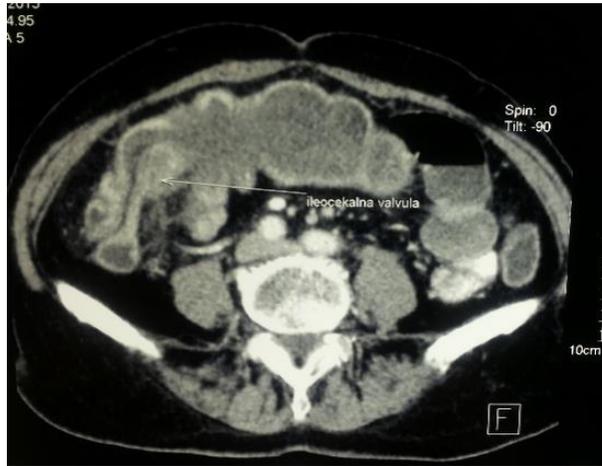


Figure 1

After the diagnosis, the following surgical intervention was indicated and performed: laparotomia explorativa. Hemicolectomia dex. cum ileotransversocolo anastomosis termino-lateralis.

Intraoperative findings: No free fluid present in the abdomen. Parietal and visceral peritoneum showed no changes in the form of secondary deposits. Adhesions were present between the omentum and anterior abdominal wall. Intussusception of the cecum with ileocecal valve in the ascending colon was found. Cecotomy was performed. A 5x5 cm infiltrate of hard consistency was found which involved all layers of the wall, did not perforate the serous membrane and partially occluded the lumen of the intestines. Figures 2 and 3.



Figure 2. Invagination caused by tumor



Figure 3. Invagination caused by tumor

Pathohistological examination of the preparation: macroscopically – the resection was the final part of the small intestine, 190 mm long, the cecum without appendix, the ascending and part of transversal colon 250 mm long, with associated fat tissue. The cecum was completely filled with lobulated tumor mass, pink and with softer consistency. Microscopically – polypoid mucinous adenocarcinoma, well-differentiated, spreading infiltratively, without venous and lymphatic invasion, with absent metastases in lymphatic nodes (0/24) and with no tumor on the edges of the resection. Final histopathological findings: Adenocarcinoma mucinosuminvasivum intestine crassi HG1 in stadio B secundum Dukes ((B3 secundum Astler Coller) pT4b N0(0/24) Mx secundum AJCC/UICC TNM L0V0.

Postoperative course was regular. Bowel transit was established. Nasogastric probe was taken out on the third day. The drain was removed on the fifth day. Sutures were removed on the tenth postoperative day. Medical advisory board for malignant diseases of the digestive tract: regular checkups and monitoring were indicated.

The first control checkup with a surgeon one month later: findings were regular.

Discussion

Invagination (intussusception) in adults is clinically manifested by nonspecific, chronic problems which point to a possible bowel obstruction. The most common symptom is abdominal pain followed by vomiting and nausea. The exact mechanism of development is unknown but it is believed that a lesion in the intestinal wall or presence of an irritant in lumen initiates invagination by changing the normal intestinal peristalsis. The presence of palpable masses in the abdomen is present in 24% to 42% of examined patients. Invagination may be indicated by the presence of a movable mass in the abdomen along with the above mentioned symptoms (4, 5).

The dominant locations of intussusception are the places where movable segments of the colon go into the less movable segment (8).

Invagination is classified into four groups according to the place of origin:

- 1) entero-enteric, limited to the small intestine,
- 2) colon-colonic, which includes only the segments of the colon,
- 3) ileo-colonic, prolapse of the terminal ileum into the colon and
- 4) ileo-cecal, the main initiator of invagination is ileocecal valve (6, 9, 10).

The diagnosis is established based on history data, clinical picture and diagnostic procedures (native RTG graph of the abdomen, abdominal ultrasound, MDCT of the abdomen, colonoscopy).

Native RTG graph of the abdomen is usually the first diagnostic procedure which shows the signs of bowel obstruction and provides initial information about the location of the obstruction (11).

Ultrasound diagnostics as an easily available and noninvasive procedure has its application in the diagnosis of intussusception with signs of pseudo-kidney but it also has drawbacks due to the masking of the visual field by gas collections in the intestines (12).

Colonoscopy can visually determine the exact cause of the obstruction, do the biopsy of the change and its location and it is an appropriate method particularly in nonspecific, chronic problems (13).

In the last several years, MDCT scanner has become the leading diagnostic procedure which shows the exact location of intussusception and helps to plan surgical intervention (14).

Invagination in infants and children can be resolved with barium irigography or air insufflation into the colon. The treatment of invagination in adults is in most cases finalized surgically. Oncological principles of large intestine resection are performed due to malignant processes which are dominant in the etiology (15, 16).

Medial laparotomy has mostly been used so far as an approach in surgical treatment and recently, laparoscopic resection of the small and large intestine has been introduced into practice in recent years observing the oncological principles of resection (17, 18).

Conclusion

Intestinal invagination in adults is rare and the main cause is a malignant process. MDCT scan of the abdomen is the most specific and the most sensitive preoperative diagnostic method. The treatment of invagination of intestines in adults is, as a rule, surgical. The principles of surgical treatment include oncological resection of the intestines by the use of classic or laparoscopic approach.

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Prikaz bolesnika

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KOLONO-KOLONIČNA INVAGINACIJA IZAZVANA KARCINOMOM CEKUMA - PRIKAZ SLUČAJA

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Invaginacija (intususcepcija) predstavlja uvlačenje proksimalnog segmenta creva (intususceptum) u distalni segment creva (intususcepiens).

Studija daje prikaz bolesnika sa kolono-koloničnom invaginacijom uzrokovanom adenokarcinomom cekuma, kao jednim od ređih uzroka kolonične invaginacije.

Multidetektorska kompjuterizovana tomografija trbuha i male karlice dijagnostika je izbora, a resekcija creva, po principu onkološke resekcije terapija je izbora invaginacije u odraslih osoba kod maligne etiologije bolesti.

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Ključne reči: invaginacija (intususcepcija), multidetektorska kompjuterizovana tomografija, kolon, hirurško lečenje, resekcija