CASE REPORT

KOLON & REKTUM Hastalıkları Dergisi
Journal of Diseases of the Colon and Rectum

An Unusual Late-Term Result of a Retained Intraabdominal Surgical Foreign Body: Migration into the Rectum and Spontaneous Extrusion

Cerrahiye Bağlı İntraabdominal Yabancı Cismin Nadir Görülen Geç Dönem Sonucu: Rektuma Migrasyon ve Spontan Atılım

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ÖZET

Gossypiboma terimi, cerrahi sırasında vücutta unutulan pamuklu materyaller sonucu oluşan kitleleri tanımlamak için kullanılır. Vücutta unutulan gazlı bez ve cerrahi alet gibi yabancı cisimler çeşitli medikal ve hukuki nedenlerden dolayı nadiren rapor edilmektedirler. 64 yaşında erkek hasta, kliniğimize defekasyon ile spontan olarak yabancı bir cisim çıkarma şikayeti ile başvurdu. Hastanın hikayesinde 4 sene önce mesane kanseri tanısı ile geçirilmiş total sistektomi ameliyatı mevcuttu. Ameliyattan 2 yıl sonra çekilen bilgisayarlı tomografide presakral alanda 6x6 cm boyutlarında, düzgün sınırlı, homojen iç yapıda solid kitle saptanmış ve kitle kesin olarak kanıtlanmadan nüks tümör olarak düşünülerek kemo-radyoterapi tedavisi uygulanmış. Cerrahi tekniklerdeki ilerlemelere rağmen, cerrahi sonrası

ABSTRACT

The term "gossypiboma" denotes a mass of cotton that is retained in the body following surgery. Foreign bodies like a retained gauze and surgical instruments are rarely reported due to medical and legal reasons. A 64 years old man admitted to our clinic with the complaint of spontaneous extrusion of a foreign body during defecation. The patient had a history of a total cystectomy operation due to urinary bladder cancer four years ago. After two years, CT scan was performed revealing a well shaped 6x6 cm solid mass with a homogenized internal structure in the presacral area considered as tumoral relaps and the patient underwent chemo-radiotherapy without a proven diagnosis. Despite the improvements in the development of surgical techniques, the inevitable probability of the presence vücutta

Basvuru Tarihi: 26.05.2009, Kabul Tarihi: 06.06.2009

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Kolon Rektum Hast Derg 2009;19:129-133

yabancı cisim kalması halen kaçınılmaz bir olasılık olmaya ve ciddi problem oluşturmaya devam etmektedir. Klinik bulguların non-spesifik olması ve kesin olmayan görüntüleme bulguları doğru tanı konulmasını engelleyebilmektedir. Ameliyatta kullanılan cerrahi materyallerin ameliyattan önce ve sonra sayımının yapılması bu komplikasyondan sakınmanın en etkili yoludur.

Anahtar kelimeler: Gossypiboma, Migrasyon, Spontan atılım

of foreign bodies after surgery still remains to be a serious problem. Non-spesific clinical symptoms and inconclusive imaging findins may preclude an accurate diagnosis. Counting of the surgical material before and after the surgery is the most effective way of avoiding this complication.

Key words: Gossypiboma, Migration, Spontaneous extrusion

Introduction

The term "gossypiboma" describes a cotton foreign body that is retained inside the patient during surgery.[1] Foreign bodies like a retained gauze and surgical instruments are rarely reported due to medical and legal reasons. Although it has been reported to occur following surgical procedures such as abdominal, thoracic, cardiovascular and orthopedic operations[2,3], the real incidence is unknown; however, it has been reported to vary in a range from 1/100 to 1/3000 following surgical procedures.[4] It may be difficult to diagnose the presence of a surgical sponge left after abdominal surgery as long as it doesn't have a marker. Clinical symptoms both in the early postoperative period as well as months or years after the initial operation are often non-spesific. Cases of the migration of gauze sponges have been reported to occur into the small intestine[2,5], stomach[4] or urinary bladder.[6] We report a patient in whom a retained surgical sponge migrated into the rectum continued by its spontaneous extrusion.

Report of a Case

A 64-year-old man admitted to Istanbul University, Istanbul Faculty of Medicine, Department of General Surgery in Febraury 2006 with the complaint of the spontaneous extrusion of a foreign body during defecation. The patient had a history of a total cystectomy operation due to urinary bladder cancer at a different hospitals urology clinic four years ago, and he hadn't received any adjuvant therapies. Because of the new onset of abdominal and left inguinal pain at the end of the 2nd year following his initial procedure, CT scan was performed revealing a well shaped 6x6 cm solid mass with a homogenized internal structure in the presacral

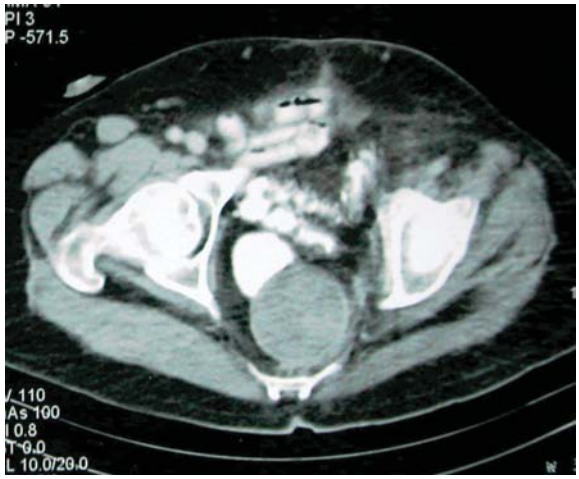

Figure 1. The well shaped 6x6 cm solid mass with a homogenous internal structure in the presacral area compressing the posterior of the rectum.

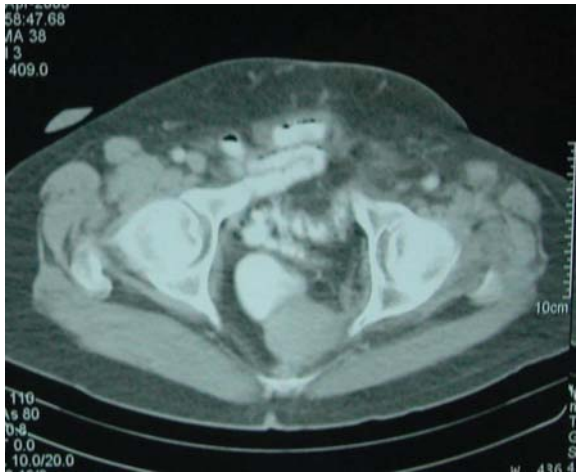

Figure 2. It was visualized that the lesion hed regressed to 4x4.5 cm in dimension but hadn't changed any of its morphological properties.

area (Figure 1) which was considered as tumoral relaps and the patient underwent chemo-radiotherapy without

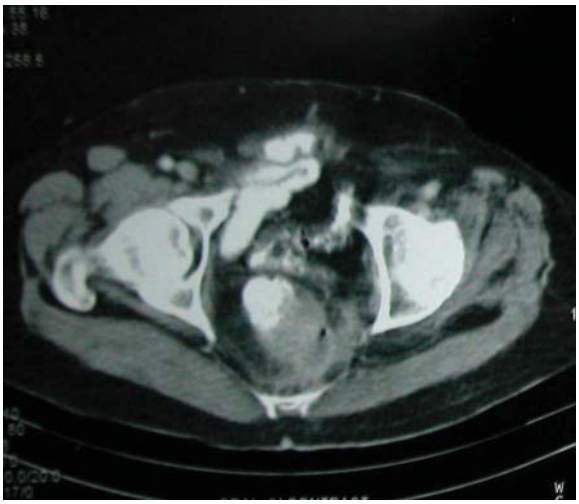

Figure 3. The remaining restricted moss (2.5x4 cm) that cauldn't be dustinguished from the rectal wall.

a proven diagnosis (14 cures of radiotherapy and 19 weeks of chemotherapy). It was visualized that the lesion had regressed to 4x4.5 cm in dimension but hadn't changed any of its morphological properties by the evaluation of the 2nd CT scan obtained in the 3rd year following his initial operation (Figure 2). The last CT scan performed following two months after the spontaneous extrusion of a surgical sponge during defecation showed a remaining irregular thickening of the rectal wall (4x2.5 cm) (Figure 3), and also adjacent

Figure 4. The rectal mucosa was seen to be edemataus and inflamed, but the rectal wall structure and integrity was detected to be in tact.

to this thickening a lesion with a structure consisting of gas bubbles and a peripheral contrast enhancement was detected in the left presacral area. These findings were considered as inflammatory changes because of the existence of bowel habits. Rectosigmoidoscopy was carried out for the evaluation of the mucosa. Although the rectal mucosa was seen to be edematous and inflamed, the rectal wall structure and integrity was detected to be intact (Figure 4). During his follow-ups, control CT and colonoscopy were performed at the end of the 12th month of the spontaneous extrusion event, the findings of which revealed a complete recovery of the inflammatory changes with a completely normal rectal mucosa.

Discussion

Despite the improvements in the development of surgical techniques, the inevitable probability of the presence of foreign bodies after surgery still remains to be a serious problem. After surgery, the most commonly retained foreign body is the laparotomy sponge because of its common use, small size and its amorphous structure.[4] Since cotton sponges are inert, they do not undergo any spesific biomedical changes.

The diagnosis of a retained surgical sponge is difficult, because the clinical symptoms are non-spesific. Usual symptoms include abdominal pain of unknown origin, rectal tenesmus, and discharge through a persistent sinus.[7] Retained sponges may produce various complications such as obstruction, fistula formation, peritonitis, abscess formation, transmural migration and spontaneous extrusion. It has been reported to lead to erosion of a blood vessel or rarely to tumor formation.[8] Especially in patients having undergone surgery for cancer, it is a challenge to distinguish it from recurrent cancer.

Symptoms may appear in the early postoperative period or even after weeks, months or years. In the early postoperative period, the symptoms are similar to those of an intraabdominal abscess since the majority of patients present with abdominal pain, abdominal mass, diarrhea or intestinal obstruction.[2,9] Two types of foreign body reactions can take place.[4,10] The first type is an aseptic fibrinous response to the foreign material that creates adhesions and encapsulation. The result is a foreign body granuloma which may remain in a silent clinical course and not produce any clinical symptoms at all. The term gossypiboma has been used to describe a foreign body

granuloma that is composed of cotton matrix.[4] A gossypiboma may undergo calcification, disruption, partial absorption and even diffusion. The second type of foreign body reaction is exudative in nature and produces an inflammatory reaction with abscess formation. The body attempts to extrude the foreign material, which may lead to postsurgical complications such as external fistula formation or erosion and perforation into adjacent viscera.[10] The exudative type of response often causes symptoms in the early postoperative period, but the extrusion process may take years and the clinical symptoms are non-specific. Migration of a surgical sponge into the bowel is rare when compared to the incidence of the formation of an abscess, chronic fistula, or foreign body granuloma.

Non-specific clinical symptoms and inconclusive imaging findins may preclude an accurate diagnosis.[11] However, it can be diagnosed preoperatively in many instances with the help of radiological studies such as plain radiography when surgical textile materials have been impregnated with a radio-opaque marker, ultrasonography (USG), computerized tomography (CT), magnetic resonance imaging (MRI), and gastrointestinal contrast series.[2,12,13] The diagnosis is easily made by plain abdominal radiography, when a radio-opaque marker is seen. However, this imaging method is not helpful when these markers are disintegrated or fragmented over time.[14] The suspicion of a retained surgical sponge can be confirmed by performing USG and especially CT imaging. Radiological findings of sponge-granulomas have been well described. These granulomas present as well-defined hypoechoic masses containing highly echogenic foci on sonography and these unusual sonographic findings are crucial for differential diagnosis.[15] Conventional CT can detect retained foreign bodies in the acute postoperative period as well as years after surgery. A caharacteristic appearance of gossypiboma includes a well ciscumscribed hypodens lesion, whorled, mass-like density with retained gas bubbles, also referred to as the CT 'whirl sign'.[16] In our case, the existance of a homogeneous solid-like mass lesion that didn't include any gas bubbles was present on CT.

We reported a patient in whom a retained surgical sponge migrated into the rectum continued by its spontaneous extrusion. The gossypiboma which was the sponge itself had caused the development of the second type of foreign body reaction, which is exudative in nature and has already been mentioned above. Thus, it had lead to an inflammatory reaction causing the sponge migrate through the rectal wall to be finally extruded via defecation. Once the foreign body was discharged from the body, it was observed during the patients follow-ups that all inflammatory findings were resolved at the end of the first year following the spontaneous extrusion event.

In conclusion, although gossypiboma is rarely seen in daily clinical practice, it should always be considered in the differential diagnosis of abdominal pain or the presence of the signs of intestinal obstruction in patients who had surgery in his past medical history. The best approach in the prevention of this condition can be achieved by meticulous count of surgical materials in addition to thorough exploration of surgical site at the conclusion of operations and also by routine use of surgical textile materials impregnated with a radio-opaque marker that are easily detected by intraoperative radiologic screening when the count is suspicious. When the sponge count is incorrect, unless the patient is unstable, wound closure must absolutely be delayed until the missing or miscounted sponge is clarified.

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