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CLINICAL CASE

Cecal perforation secondary to surgical drainage. A case report[☆]



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KEYWORDS

Drenaje abdominal;
Morbilidad drenajes;
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Abstract

Background: The use of surgical drains in abdominal surgery still remains controversial. While accepting their role in certain circumstances, their systematic use advocated by other schools, is not fully accepted.

The case is presented of a caecal perforation secondary to a drainage tube in the perineum following an abdominal-perineal amputation of the rectum in a cancer patient that required surgical repair.

Clinical case: This is a patient who underwent abdominal-perineal resection for rectal neoplasia. It was decided to leave a silicone-type drain tube in the perineum, and in late postoperative he presented with a caecal perforation due to traumatic introduction of the drainage tube, which required further surgery to repair it.

Discussion: There is a tendency to use less and less drains in abdominal surgery, although there are certain occasions when it becomes unavoidable. On the other hand, the morbidity associated with its use significantly complicates and delays the recovery of the patient. It is accepted that is not useful to prevent the occurrence of fistulas, although it contributes to its early detection.

Conclusions: Caecal perforation due to a drainage tube is a rare complication, which must always be taken into account, and that perhaps could be avoided by using soft and less rigid drains.

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PALABRAS CLAVE

Abdominal drainage;
Drain morbidity;
Caecal perforation

Perforación de ciego secundaria a drenaje quirúrgico. Reporte de un caso**Resumen**

Antecedente: El uso de drenajes quirúrgicos en cirugía abdominal sigue siendo controvertido; si bien se acepta su papel en determinadas circunstancias, el uso sistemático, preconizado por otras escuelas, no está plenamente aceptado.

Presentamos un caso de perforación de ciego secundaria a tubo de drenaje en periné, tras realizar una amputación abdominoperineal de recto en un paciente neoplásico que obligó a su reparación quirúrgica.

Caso clínico: Se trata de un enfermo sometido a amputación abdominoperineal por neoplasia de recto, al que se decidió dejar tubo de drenaje tipo siliconado por periné y que en el postoperatorio tardío presentó perforación del ciego, por introducción traumática del mismo en la luz cecal, hecho que obligó a su reintervención y reparación quirúrgica.

Discusión: Cada vez se tiende a usar menos drenajes en la cirugía abdominal, si bien existen determinadas ocasiones en las que se convierte en algo inevitable. Por otro lado, conlleva morbilidad asociada a su uso, lo que complica y retrasa ostensiblemente la recuperación del paciente. Es aceptado que no previene la aparición de fístulas, si bien contribuye a su detección precoz.

Conclusiones: La perforación cecal por uso de drenaje es una complicación excepcional que siempre hay que tener en cuenta y que quizás se podría evitar utilizando drenajes blandos y menos rígidos.

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Background

The routine use of abdominal drainages after colorectal surgery is still controversial. Even though its use is not questioned in certain circumstances, it is agreed that it does not influence the prevention of postoperative complications to allow its early detection^{1,2}.

In the survey carried out by Roig et al.³ in 2008 of members of the Asociación Española de Coloproctología and the Asociación Española de Cirujanos about the use of drainages after elective colorectal surgery, it was concluded that its use is decreasing, despite the fact that 38.5% of the respondents continue to use it systematically and 57.7% selectively. This percentage increases significantly with rectal surgery as compared to colic surgery, since they are considered more useful in this type of resections.

Morbidity caused by its use is not excessive; however, it has a relevant significance that severely complicates patient recovery^{4,5}.

We submit a case of caecum perforation due to surgical drainage tube and, after analysing the existing bibliography on this matter, we discuss this exceptional postoperative complication, particularly highlighting the morbidity caused by the use of abdominal drainages in digestive surgery.

Clinical case

Male patient, 55 years, with important surgical history of low anterior resection due to rectum neoplasia 14 months earlier, stage IV (T3, N2b, M1), with previous radio-chemotherapy, which presented a postoperative anastomotic leak that was conservatively treated and liver segmentec-

tomy (segment IV) and lung metastasectomy in a second term due to the presence of 2 liver metastases in said area and another in the upper right lung lobe. Once an increase in pelvic captation was observed in the positron emission tomography and, with suspected recurrence, he was submitted to rescue surgery as per indication of the Oncology service. Said procedure evidenced a purulent-sanies collection in the pelvis and great fibrosis, due to previous anastomotic dehiscence; therefore, intra-operative biopsy was performed and informed as absence of malignancy. In light of the above, it was decided to complete the intervention with abdominoperineal amputation without incidences; a silicone-tube drainage was left inside the peritoneal area due to diffuse bleeding and due to the presence of said collection. Five days after surgery, in relation to his sitting position in a chair, he presented effusion of fecaloid material through the perineal tube. An abdominopelvic computed tomography was conducted and it evidenced effusion of contrast material that was administered via the perineal drainage tube (Fig. 1) and caecum



Fig. 1 Abdominopelvic computed tomography that shows the passage of contrast material administered towards the perineal drainage tube indicative of perforation.



Fig. 2 Abdominopelvic computed tomography that shows drainage tube introduced in lumen of the caecum.

fistulization with the suspicion that it was located inside caecal lumen (Fig. 2). In light of these findings, it was decided to submit the patient to an urgent laparotomy, by means of which a perforation in the caecum was found due to the introduction of the silicon drainage (Fig. 3). A primary closure of the fistulous caecal orifice was made without incident after the removal of the perineal tube. Post-operative period passed normally with proper evolution; he presented satisfactory passage of gases and faeces on the fourth day. Finally, he was discharged on the seventh day after re-operation.

Discussion

The main grounds claimed by surgeons to insert drainages in elective colorectal surgery are, as a general rule, the presence of haemorrhage, intra-operative contamination, risk anastomosis and operation difficulties, even though it has always been a personal circumstance according to the clinical case and the professional in charge of the intervention. It is well known that there are certain surgeons who tend to use this technique systematically and there are others who disagree and only use it in some procedures³.

Complications caused by the use of drainages include infections in the area of insertion, pain, haemorrhage, herniations, small bowel or omentum eviscerations and even bowel and anastomotic lesions; it is known that they can favour the development of intra-abdominal adhesions^{3,6,7}. There is also evidence that a long-term period of use increases the incidence of complications such as fistula and bowel obstructions^{4,8}.

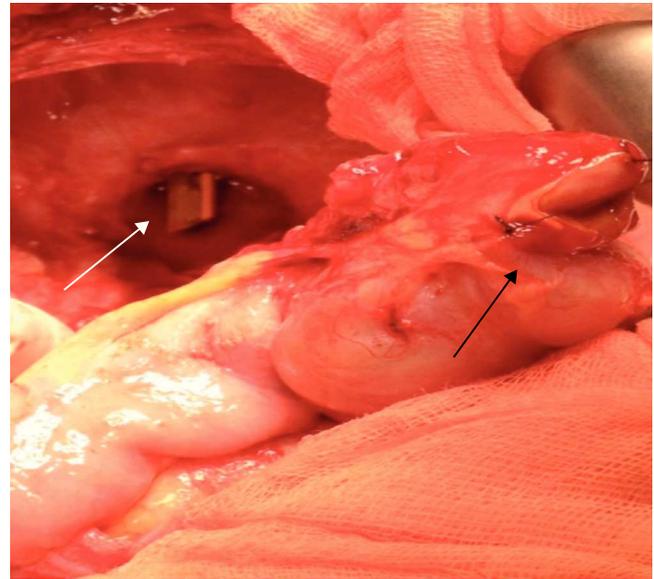


Fig. 3 Operation image that shows drainage tube introduced in peritoneal cavity and secondary perforation of caecum.

This particular case is truly exceptional. Despite rectal perforations of the same nature having been described on other occasion, they occurred after low anterior resections and intra-abdominal drainage was used, not perineal⁹.

In our group of work, the use of abdominal drainages is not usually systematic, despite the fact that, in the intervened patient, it was decided to insert it by the perineum due to a slight but not reassuring diffuse bleeding, in addition to the collection found, all of which led us to the above. We consider that the mechanism was caused by the patient sitting on the chair despite the tube being fixed, which pushed the tube and caused it to slide, all of which, together with its extreme thinness, caused the intra-abdominal introduction of the tube and lesion of caecum adhered to Douglas.

There is no consensus on type of drainage; however, it seems that Redon or Jackson-Pratts vacuum aspiration system is used more because they seem to be less prone to retrograde infection, even though there are also insertions of Penrose-type capillary, of abdominal irrigation/suction (van Kemel or Martí Palanca type), and other types of rubber or silicone drainages. There is no rule as regards the maintenance period either; thus, there are those who remove it after 24 hours and others who leave it for 7 days or even until the patient is discharged^{1,3}. However, it has been noted that long-lasting maintenance periods lead to related complications.

In our group of work, the type of drainage used most is usually Penrose-type capillary, even though, in this case, the surgeon in charge decided to use a silicone tube, which is harder and less malleable, due to the thick material in the collection, which could cause it to breakdown. As regards the permanence period, we should say that we kept it until the patient presented a correct passage of gases and faeces, which usually occurs between the fourth and fifth day, and because production is less than 50 cm³.

Despite morbidity related to its use, it is considered that the usage of abdominal drainages is still active in colorec-

tal surgery and, even though its systematic use is not justified^{5,10}, its current role is evident.

Conclusion

The collocation of drainages made up of softer, less consistent material could prevent this kind of lesions. We have already implemented this in our hospital in order to prevent this type of lesions.

Conflict of interest

The authors declare that there are no conflicts of interest.

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