Unusual presentation of more common disease/injury

Port – site metastases following bariatric surgery

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Summary

Morbid obesity is a huge problem of the twenty-first century, mostly treated by bariatric surgery. The authors report the case of a patient with port site metastases from an unknown rectal adenocarcinoma when bariatric surgery took place. Implants in the site of the subcutaneous access port to the band are problematic, particularly in patients with occult intra-abdominal malignancy. This case underlines the importance of preventive measures to avoid cell implant in port sites in benign such as malignant diseases.

BACKGROUND

Obesity is increasing worldwide at an alarming rate in both developed and developing countries. Even in societies that traditionally had the lowest prevalence of overweight adults and obesity, their rates are beginning to meet or exceed those of western societies.¹ European obesity prevalence range from 10% to 20% in men and 15% to 25% in women, whereas that among US adults has reached 28% in men and 34% in women.²

Surgery should be offered to severe obese patients, when medical treatment, including lifestyle changes such as healthful eating and regular exercise, have not been effective. Laparoscopic adjustable gastric banding (LAGB) was the bariatric surgery mostly used in Europe at the beginning of the century.³ However, it has associated risks and

long-term consequences and should be considered as only one part of an approach for treating obesity.

CASE PRESENTATION

A 53-years-old woman underwent LAGB for morbid obesity. Fourteen months later she presented with rectal bleeding and a colonoscopy was performed. It detected a polypoid lesion at the rectosigmoidal transition (figure 1) and the biopsy/histology revealed an adenocarcinoma. The preoperative study did not show neither local nor distant metastases, so a laparotomic high rectal resection was undertaken. Histological examination of the tumour confirmed the diagnosis of rectal adenocarcinoma (pT3 N1 Mx). The patient was submitted to adjuvant chemotherapy. Twenty-eight months after LAGB she presented

Figure 1 Colonoscopy: volumous tumour, at the rectosigmoidal transition (~18 cm from the anus), obstructing the colic lumen.

Figure 2 Abdominal CT scan: lesion (4×6 cm) in the midline (epigastric region), with extension through the abdominal wall, between the rectus abdominis muscles.

Figure 3 Excisional biopsy: tumoural mass at the neighbourhood of the band port.

with recurrent infections at the subcutaneous access port to the band, which didn't improve with appropriate anti-biotherapy and surgical drainage. As the clinical situation was perpetuated through 6 months a CT scan (figure 2) was done. A large epigastric mass adjacent to the site of the subcutaneous access port to the band was found. An excisional biopsy of the mass showed metastatic adenocarcinoma (figure 3).

DISCUSSION

LAGB has become a mainstay of surgical therapy for morbid obesity over the last decade, in Europe. The advantages of LAGB are that this operation is minimally invasive to the stomach, totally reversible and adjustable to the patients' needs and is associated with lower morbidity and mortality.³

According to the authors' knowledge, this is the unique published case describing an abdominal wall metastasis after LAGB.

There are several reports of port site metastatisation after laparoscopic surgery, but none after bariatric procedures.⁴

When LAGB took place, no cancer was known. Twenty-eight months later, the patient developed a mass in the site of the subcutaneous access port to the gastric band. We could hypothesise that rectal cancer was present at the time of the first surgery and that probably the serosa was invaded.

Plenty of explanation models have been developed in order to make clear the mechanisms of neoplastic cells seeding at laparoscopy. Neoplastic cells can implant by direct contact of the tumour,⁵ but this does not support the case stated here. In fact, during the first surgery the rectum was not manipulated.

Supposing that the serosa was invaded at the time of the first surgery, implantation appears to have occurred when circulating cancer cells in the pneumoperitoneum were extruded outward toward port site at the time of deflation along a pressure gradient (chimney effect). Another fact that contributes to this mechanism was the gas used – CO₂ – a non-inert one, which is capable of modifying inflammatory and metabolic cell characteristics.⁶

Besides the explanation argued above, we cannot exclude that the port site was seeded with neoplastic cells during tumour manipulation at the high rectal resection; however,

it has little chance because a lower abdominal laparotomy was performed.

Adding to the facts previously exposed, it should be emphasised that the: tumour, an adenocarcinoma, was an aggressive one (T3N1Mx, 8×6 cm) patient's morbid obesity, dietary restriction and neoplastic illness, compromised her immunocompetence presence of a subcutaneous foreign body (port reservoir) and neoplastic cells affinity to healing tissues with high cellular proliferation contribute all to neoplastic cell implantation at the subcutaneous access port to the band.

Learning points

- This case-report calls attention for the fact that independently of laparoscopic or laparotomic access, preventive measures to avoid tumour dissemination⁷ should always be followed: parietal trocar fixation avoiding gas or fluid port site leakage, frequent wash out of the peritoneal cavity, wound incision should not be too small and must be accurately sutured, non-touch technique and gloove changing after tumour extraction.

Competing interests None.

Patient consent Obtained.

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