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Medicine

INTRAGASTRIC BALLOON AS A CAUSE OF ACUTE PANCREATITIS, A CASE REPORT

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ABSTRACT **Background:** The use of endoscopic gastric balloons is an alternative nonsurgical treatment for obesity management, this device is not an innocuous procedure and has some complications. In this paper we report a case in which the intragastric balloon obstructed the duodenum and cause an acute pancreatitis, a few cases of pancreatitis have been reported to date

Case report: A forty-year-old female with history of intragastric balloon placement 2 years before presents with acute epigastric pain, abdominal distention, leukocytosis, elevated amylase and lipase. MRI showed migration of the balloon towards the duodenum and acute pancreatitis. The team decided to push it to the small bowel and perform a laparoscopic removal. The patient was discharged on the sixth day with complete tolerance and remitted pancreatitis.

Conclusion: Intragastric balloon remains a popular choice form management of obesity despite the disappointing long term results. Although the complication rate may be low, it is important to be aware of them and adequately monitor the patient to detect them timely. With a proper diagnostic approach, they can be handled in a minimal invasive way either endoscopically or laparoscopically.

KEYWORDS : Intragastric balloon – complications – Acute pancreatitis - obesity

Introduction

The prevalence obesity disease continues gradually increasing day by day to alarming levels.[1] Obesity increases the likelihood of various diseases, particularly cardiovascular diseases, diabetes, hypertension, stroke, gastroesophageal reflux disease, obstructive sleep apnea and even cancer.[2]

Today bariatric procedures are the most used for the management of morbid obesity. But nevertheless some patients have surgical contraindications. . And they are treated using several methods, such as dietary programs, exercising, and medical therapy, which may involve implanting an intragastric balloon.[3]

The use of endoscopic gastric balloons is an alternative nonsurgical treatment for obesity management. These devices produce a decrease in weight due to reduced gastric capacity, so the patient has early satiety, short term modality for weight loss, which have shown acceptable efficacy in weight reduction.[4]

The intragastric balloon is not an innocuous procedure and has some complications, this being important when evaluating a patient with intragastric balloon.[5]

The reported complication rates range from 2.8 to 4.1% and the most common is intestinal obstruction. Most of the complications occur within the first six months after placement of the balloon. Other side effects of balloon insertion have been previously described, including esophagitis, severe nausea and vomiting, abdominal cramps, hiccups, belching, pyrosis, bowel mechanical gastric ulcer, and aspiration.[6]

In this paper we report a case in which the intragastric balloon obstructed the duodenum and cause an acute pancreatitis, a few cases of pancreatitis have been reported to date

Case report

A forty-year-old female with history of intragastric balloon placement 2 years before presents with acute epigastric pain, abdominal distention, leukocytosis, elevated amylase and lipase. MRI showed migration of the balloon towards the duodenum and acute pancreatitis.(Figure 1,2) An initial endoscopic attempt of extraction at the balloon was performed, this was not possible.(Figure 3) The team decided to push it to the small bowel and perform a laparoscopic removal.(Figure 4,5) The balloon was located 40cm distal to the ligament of Treitz. It was sent up to 2 meters and was removed via enterotomy. Hand sewn single layer was performed and cavity washes. (Figure 6) She presented adequate postoperative course. Enteral diet was started on the third day. The patient was discharged on the sixth day with complete tolerance and remitted pancreatitis.

Discussion

There is a wide range of therapeutic options for the management of morbid obesity. Can it be diet, exercise, drugs, surgery and the placement of an intragastric balloon. It has been described the use of this device since 1985.[7,8]

The intragastric balloons are not surgical procedures, these are placed endoscopically. Its function is to reduce the capacity of the stomach as a reservoir and therefore food. Its effectiveness has been widely valued.[6] The placement of an intragastric balloon is safer and less invasive than a surgical procedure has proven to be more effective than medical management for treating obesity, for that reason this endoscopic procedure is performed commonly.[8]

It described in the literature subsequent effectiveness in reducing weight and body mass index, 15.3% ± 10.5 kg, and 5.3 ± 3.4 kg/m2 respectively to the placement of an intragastric balloon.[9]There is also another study which relates weight loss and inflation of intragastric balloons: the mean excess weight loss of 35.4% ± 27.3% if inflation with 500 ml and 48.8% ± 31.0% for balloons with 600ml ($P < .02$).[10]

The intragastric balloon is a safe non-surgical procedure, but nevertheless described serious complications life-threatening such as intestinal obstruction and gastric perforation.[11] Other complications include vomiting, nausea, abdominal cramps, esophagitis, reflux, and electrolyte abnormalities, and there are few publications of pancreatitis.

Apparently the cause of secondary pancreatitis to the placement of intragastric balloon is not unique, it can be brought to the gastric proximity to the pancreas producing directly compression and inflammation, another cause described is the migration of the balloon producing intestinal obstruction and duodenal compression as happened in our case report presented.

R. Vongsuvanh and col. report the first case of severe acute necrotizing pancreatitis with gastric ischemia and hepatic portal venous gas following migration of a Spatz balloon catheter into the duodenum. It fails to make its handling endoscopically and decided to perform laparotomy finding gastric wall ischemic but viable. The pancreas with necrosis and hemorrhage. The balloon catheter impacted in the duodenum ampulla, removed was achieved. The patient was discharged on day 14. And this case demonstrated that catheter migration of Spatz ABS can occur even in the absence of deflation.[12]

This case presents some similarity to our clinical case demonstrated in this paper, as they demonstrate achievement of intragastric balloon migration into the duodenum, causing pancreatitis. It was endoscopically impossible to removed, and the team decided to perform a laparoscopy and push balloon up to 2 meters after the ligament of Treitz and remove with a enterotomy, the patient curse with appropriate postsurgical evolution. The patient was discharged on the sixth day with complete tolerance and remitted pancreatitis.

Iyad Issa and col. Presented a case of pancreatitis caused by intragastric balloon, of a patient that started with pain 24 hrs. After placement, managed with pain killers, 48 hrs. Later with vomiting and pain again, but this time the pain was severe and radiating to the back. Her blood tests with significant elevation in lipase and amylase. CT scan of abdomen revealed compression of the pancreas at the level of its body by the dilated stomach containing the balloon. And since the patient was not an alcohol consumer, the most likely cause was deemed traumatic compression by the balloon-filled stomach. The balloon is removed endoscopically and having a satisfying and referral evolution of pancreatitis.[13]

Acute pancreatitis after implanting intragastric balloon has rarely been experienced, only a few cases previously reported in the literature. Acute pancreatitis may be induced either by direct compression of the pancreatic duct by the dilated stomach, the migration of the catheter to the duodenum or deflated balloon causing obstruction.

Conclusion

The use of intragastric balloon for obesity management provides improvement in terms of weight reduction compared to lifestyle changes. It remains a popular choice despite the disappointing long term results. Although the complication rate may be low, it is important to be aware of them and adequately monitor the patient to detect them timely. With a proper diagnostic approach, they can be handled in a minimal invasive way either endoscopically or laparoscopically. Endoscopic weight loss devices are a necessary development in the face of the obesity epidemic, however, the technology is far from perfect and rigorous reporting of post-marketing complications is essential

Figure 1.-MRI revealed migration of the balloon towards the duodenum and acute pancreatitis

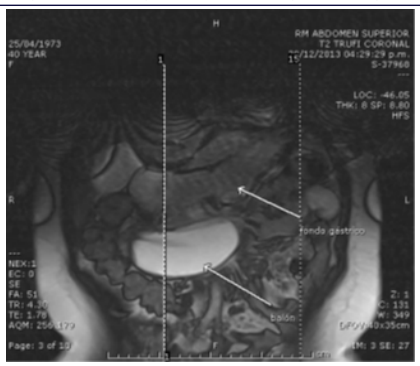

Figure 2. - MRI showing position of balloon toward the duodenum

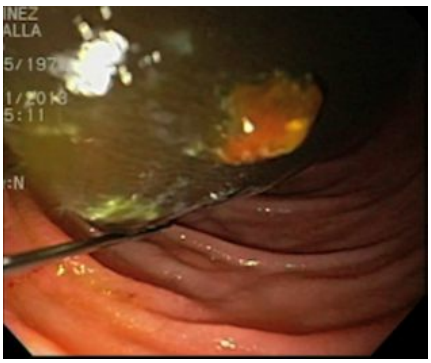

Figure 3. - Initial endoscopic attempt of extraction at the balloon was performed

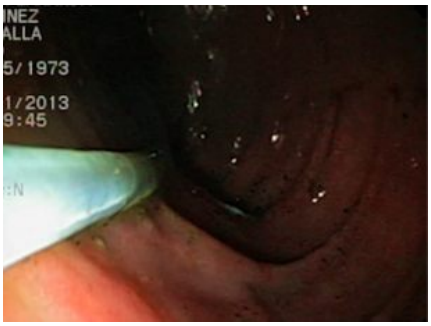

Figure 4. - The team decided to push it to the small bowel

Figure 5.- The team perform a laparoscopic removal by enterotomy

Figure 6. - Hand sewn single layer was performed and cavity washes

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