would allow luminal secretions to escape toward the lobular connective tissue, causing a granulomatous reaction with migration of lymphocytes and macrophages; (3) hormonal causes, considering the increasing incidence of this condition in women with oral contraceptives (33% of patients); and (4) associated with erythema nodosum, lupus or the existence of a still unidentified infectious organism.[1,5–9]

Given its clinical and radiological similarity with breast cancer, the diagnosis is mainly histopathological and by ruling out other diseases, finding a granulomatous inflammatory reaction, giant multinucleated Langhans cells and lymphocytes in the lobules.[8–10] Occasionally, fat necrosis is observed with accumulation of polymorphonuclear cells, forming abscesses that can lead to fibrosis with distortion of the lobe architecture, producing atrophy and degeneration of the epithelium, as well as dilation of the mammary ducts. Other unusual findings include squamous metaplasia of the mammary ducts and large abscesses. Stains and cultures for bacteria, fungi, and acid-fast organisms are typically negative. The main differential diagnosis is breast cancer and, after CNB, granulomatous diseases (breast tuberculosis, sarcoidosis, cat scratch disease, granulomatous reaction, fat necrosis, duct ectasia, acute mastitis, Wegener's granulomatosis, *Taenia solium* infection, *Salmonella typhi*, *Histoplasma capsulatum* and *Wuchereria bancrofti*).[3,8,9]

The treatment of choice for IGM has not yet been established and its tendency toward local recurrence must be considered (38%–50% cases).[5,6] Thus, and according to reported cases, its management varies from conservative treatment with corticosteroids (Prednisone® 60 mg daily) to surgical treatment, either with surgical excision or with mastectomy according to the size of the lesion, and complete resection is recommended. Due to secondary reactions to steroids and frequent recurrence after their reduction and suspension, methotrexate or azathioprine are used for their steroid-sparing capacity, thereby maintain the remission of the mastitis.[6–10]

In conclusion, IGM is a benign entity that is uncommon, and its differential diagnosis is made mainly with breast cancer.

REFERENCES

1. Zulfiqar B, Appalaneni U, Ahmed B, Hassan A, Boddu P, Carey A. Idiopathic granulomatous mastitis mimicking inflammatory breast carcinoma: what are the odds. IDCases. 2016;6:83–4.
2. Kessler E, Wolloch Y. Granulomatous mastitis: a lesion clinically simulating carcinoma. Am J Clin Pathol. 1972;58:642–6.
3. Lee JH, Oh KK, Kim EK, Kwack KS, Jung WH, Lee HK. Radiologic and clinical features of idiopathic granulomatous lobular mastitis mimicking advanced breast cancer. Yonsei Med J. 2006;47:78–84.
4. Tahmasebi S, Karami MY, Maalhagh M. Granulomatous mastitis time to introduce new weapons. World J Surg. 2016;40:2827–8.
5. Al-Khaffaf B, Knox F, Bundred NJ. Idiopathic granulomatous mastitis: a 25-year experience. J Am Coll Surg. 2008;206:269–73.
6. Sakurai K, Fujisaki S, Enomoto K, Amano S, Sugitan M. Evaluation of follow-up strategies for corticosteroid therapy of idiopathic granulomatous mastitis. Surg Today. 2011;41:333.
7. Gurleyik G, Aktekin A, Aker F, Karagulle H, Saglamc A. Medical and surgical treatment of idiopathic granulomatous lobular mastitis: a benign inflammatory disease mimicking invasive carcinoma. J Breast Cancer. 2012;15:119–23.
8. Kok KY, Telisinghe PU. Granulomatous mastitis: presentation, treatment and outcome in 43 patients. Surgeon. 2010;8:197–201.
9. Salehi M, Salehi M, Kalbasi N, Hakamifard A, Salehi H, Salehi MM, et al. Corticosteroid and azithromycin in idiopathic granulomatous mastitis. Adv Biomed Res. 2017;6:8.
10. Erozgen A, Ersoy YE, Akaydin M, Memmi N, Celik AS, Celebi F, et al. Corticosteroid treatment and timing of surgery in idiopathic granulomatous mastitis confusing with breast carcinoma. Breast Cancer Res Treat. 2010;123:447–52.

Caridad Marín Hernández*, Antonio Piñero Madrona, Pedro José Gil Vázquez, Pedro José Galindo Fernández, Pascual Parrilla Paricio

Unidad de Mama, Servicio de Cirugía General, Hospital Clínico Universitario Virgen de la Arrixaca, Murcia, Spain

*Corresponding author.
E-mail address: carikimh@gmail.com (C. Marín Hernández).

2173-5077/

Total Duodenectomy With Pancreatic Preservation for Duodenal Polyposis☆

Duodenectomía total con preservación pancreática como tratamiento de la poliposis duodenal

Familial adenomatous polyposis is an autosomal dominant hereditary disease characterized by the existence of multiple polyps distributed throughout the intestine, predominantly in the large intestine.[1] Outside the colon, they can be located in

☆ Please cite this article as: Jiménez Cubedo E, Giménez Alvira L, Jimenez Garrido M, Sánchez Turrión V. Duodenectomía total con preservación pancreática como tratamiento de la poliposis duodenal. Cir Esp. 2018;96:178–180.

the duodenum, especially in the ampullary region, requiring large surgeries in cases when their removal is necessary, which has not been possible endoscopically. We present the case of a 47-year-old woman with a history of known classic familial adenomatous polyposis and a previous colectomy with reservoir and terminal ileostomy. The patient was referred to us from the gastroenterology unit for surgical resection of duodenal polyposis that could not be resected endoscopically.

Pancreas-preserving total duodenectomy was performed together with antrectomy and cholecystectomy. During the dissection of the piece, the papilla was individualized (Figure 1) and resected at the base (just below the sphincter), individualizing the pancreatic and biliary ducts, which would remain tutored for weeks (Figure 1B). The reconstruction was done in 2 loops: biliary and pancreatic anastomoses with the first jejunal loop, which ascended behind the mesenteric vessels, end-to-side duct-mucosa, with PDS, tutoring both ducts independently. A jejunal loop was defunctionalized in Roux-en Y-for transmesocolic gastrojejunostomy. The objective of this technique was to isolate the potentially most problematic anastomosis of the digestive tract. The surgical piece from the antroduodenectomy was removed while preserving the pancreatic region (Figure 2).

We ruled out the possibility of performing a duodenectomy with pyloric preservation because with this technique a small portion of the duodenal mucosa is maintained next to the pylorus; the duodenal mucosa should be removed in its entirety, due to the risk of new adenomas (9%). Therefore, we decided that antrectomy was the minimum non-ulcerogenic gastric resection to be performed when the decision was made not to preserve the pylorus.

The pathology diagnosis was tubular adenomas with low-grade dysplasia and low-grade mucosal neoplasm. The postoperative period was uncomplicated and the patient has been asymptomatic during follow-up.

The appearance of extracolonic manifestations throughout the course of this polyposic disease of these patients is frequent, especially in the upper digestive tract and also after resection surgery of the rectum and colon.[2] They present an accumulated risk of nearly 90% of developing adenomas in the duodenum, and some 10% of these will develop a duodenal adenocarcinoma[3] at the ampullary level.

When endoscopic excision is not possible, radical surgery is necessary[4] and, given the location, these patients are classically candidates for extensive resection surgeries, which include the pancreatic head and resection of the distal bile duct, increasing the associated morbidity. Pancreas-preserving

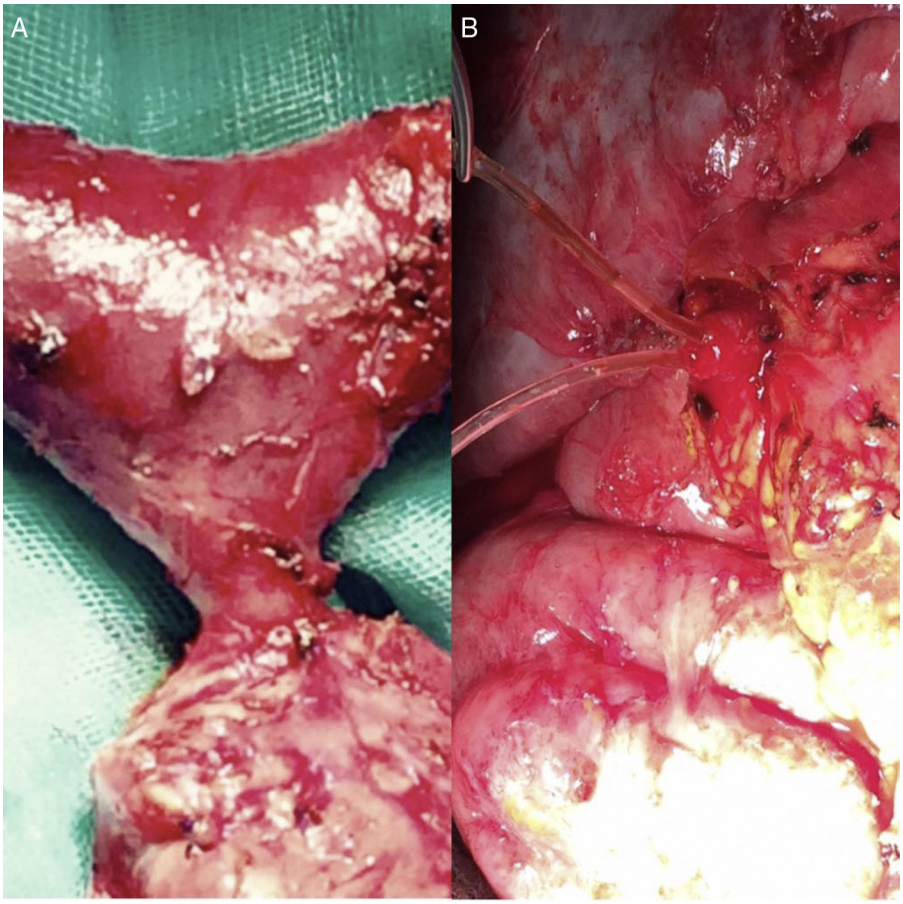

Figure 1 – (A) Insertion of the papilla in the pancreatic-duodenum region. (B) Division of the papilla at its base; tutored biliary and pancreatic ducts.

Figure 2 – Antroduodenectomy piece with pancreatic preservation.

duodenectomy is proposed as a surgery with lower morbidity by preserving the head of the pancreas,[5] and, therefore, the distal bile duct and the pancreatic duct, thereby decreasing the complications associated with this type of surgeries. It is a complex technique but it offers an alternative to large resections in selected patients.[6] Regarding its complications,[7] we found delayed gastric emptying, fistulae of the gastrojejunal, pancreaticojejunal and hepatojejunal anastomoses, intra-abdominal abscess and infection of the surgical wound, acute pancreatitis and recurrence (at the level of the post-pyloric cuff or papilla, if the pylorus or papilla are preserved) in 9% of cases. The global complication rate is 60% (25% minor and 35% major) in the few published cases, which is similar to the Whipple technique.[8]

Given the possibility of a malignant result in the definitive pathology diagnosis, an unlikely event in our case due to the numerous previous biopsies taken endoscopically, we would have been facing a duodenal adenocarcinoma; therefore, pancreatic head resection would have been completed with regional lymphadenectomy if it were an infiltrating adenocarcinoma. In cases of carcinoma *in situ*, duodenectomy is considered an adequate procedure.[9]

REFERENCES

1. Jiménez Rodríguez RM, Suárez Artacho G, Morcillo J, Díaz Pavón JM, Morales Méndez S. Adenocarcinoma in the fourth portion of duodenum in a patient with familial adenomatous polyposis. Rev Esp Enferm Dig. 2007;99:477–8 [in Spanish].
2. Leal RF, Ayrizono Mde L, Coy CS, Callejas-Neto F, Fagundes JJ, Góes JR. Gastroduodenal polyposis in patients with familiar adenomatous polyposis after rectocolectomy. Arq Gastroenterol. 2007;44:133–6 [in Portuguese].
3. Sciumé C, Damerino B, Matranga S, Leo P. Familial polyposis. Arq Gastroenterol Ann Ital Chir. 1994;65:225–7. discussion 228 [in Italian].
4. Fraguela Mariña JA. Transduodenal ampullectomy in the treatment of villous adenomas and adenocarcinomas of the Vater's ampulla. Rev Esp Enferm Dig. 2004;96:829–34 [in English, Spanish].
5. Müller MW, Dahmen R, Köninger J, Michalski CW, Hinz U, Hartel M, et al. Is there an advantage in performing a pancreas-preserving total duodenectomy in duodenal adenomatosis? Am J Surg. 2008;195:741–8.
6. Penninga L, Svendsen LB. Pancreas-preserving total duodenectomy: a 10-year experience. J Hepatobiliary Pancreat Sci. 2011;18:717–23.
7. Al-Sarireh B, Ghaneh P, Gardner-Thorpe J, Raraty M, Hartley M, Sutton R, et al. Complications and follow-up after pancreas-preserving total duodenectomy for duodenal polyps. Br J Surg. 2008;95:1506–11.
8. de Castro SM, van Eijck CH, Rutten JP, Dejong CH, van Goor H, Busch OR, et al. Pancreas-preserving total duodenectomy versus standard pancreatoduodenectomy for patients with familial adenomatous polyposis and polyps in the duodenum. Br J Surg. 2008;95:1380–6.
9. Chen G, Wang H, Fan Y, Zhang L, Ding J, Cai L, et al. Pancreas-sparing duodenectomy with regional lymphadenectomy for pTis and pT1 ampullary carcinoma. Surgery. 2012;151:510–7.

Elena Jiménez Cubedo*, Luis Giménez Alvira, Manuel Jimenez Garrido, Victor Sánchez Turrión

Servicio de Cirugía General y del Aparato Digestivo, Hospital Universitario Puerta de Hierro-Majadahonda, Majadahonda, Madrid, Spain

*Corresponding author.
E-mail address: ejimenezcubedo@hotmail.com
(E. Jiménez Cubedo).

2173-5077/