choice for asymptomatic lesions as they might resolve spontaneously. Nonetheless, the progression of the tumour needs to be observed as there are two histological varieties of mediastinal haemangioma: capillary and cavernous. Both varieties display different growth patterns.⁴ Unlike capillary haemangiomas, mediastinal cavernous haemangiomas do not resolve spontaneously. The problem is that it is very difficult to make a histological diagnosis of these tumours using methods which are not invasive. The method of diagnosis and treatment of choice is complete resection of the tumour. Haemorrhage is the main risk factor in surgical excision of these tumours. In cases where radical resection is not feasible, radiotherapy has been used as an alternative treatment.⁵

REFERENCES

- 1. Ampollini L, Carbognani P, Cattelani L, Bilancia R, Rusca M. Cavernous hemangioma of the posterior mediastinum. Ann Thorac Surg. 2010;90:e96.
- 2. Hanaoka J, Inoue S, Fujino S, Kontani K, Sawai S, Tezuka N, et al. Mediastinal cavernous hemangioma in a child: report of a case. Surg Today. 2002;32:985–8.

- Sakurai K, Hara M, Ozawa Y, Nakagawa M, Shibamoto Y. Thoracic hemangiomas: imaging via CT, MR, and PET along with pathologic correlation. J Thorac Imaging. 2008;23:114–20.
- 4. Moran CA, Suster S. Mediastinal hemangiomas: a study of 18 cases with emphasis on the spectrum of morphological features. Hum Pathol. 1995;26:416.
- 5. Cohen AJ, Sbaschnig RJ, Hochholzer L, Lough FC, Albus RA. Mediastinal hemangioma. Ann Thorac Surg. 1987;43: 656–9.

Juan J. Fibla^{a,*}, Laureano Molins^a, José M. Mier^a, Gerardo Conesa^b, Felip García^c

^aServicio de Cirugía Torácica, Hospital Quirón, Barcelona, Spain ^bServicio de Neurocirugía, Hospital Quirón, Barcelona, Spain ^cServicio de Anatomía Patológica, Hospital Quirón, Barcelona, Spain

*Corresponding author. E-mail address: juanjofibla@gmail.com (J.J. Fibla).

2173-5077/\$ - see front matter

 ${\rm (\! C\!\!)}$ 2012 AEC. Published by Elsevier España, S.L. All rights reserved.

"Second-Look" in Initially Unresectable Pancreatic Adenocarcinoma After Neoadjuvant Chemotherapy

«Second-look» en adenocarcinoma de páncreas inicialmente irresecable tras quimioterapia neoadyuvante

Surgery is the only potentially "curative" therapy for pancreatic cancer, which is still the most lethal gastrointestinal neoplasia.^{1,2} Unfortunately due to its rapid and insidious growth for years it has been highly unresectable.¹

It is estimated, therefore, that around 80%–90% of cases are inoperable at the time of diagnosis, because they are locally advanced and/or metastatic, and they have an overall survival (five years) of 5%, rising to 25% in those susceptible to oncological resection.³

Although there is consensus that curative surgery is not feasible in the case of infiltration of the coeliac trunk or the superior mesenteric artery, there is less agreement about other forms of locally advanced disease.

In fact, over the past few decades, the concept of resectability has evolved and there is a tendency to take a more ambitious and individualised approach in tackling this typically aggressive tumour biology. Therefore, benefits in selected patients have now been documented with respect to neoadjuvant chemo-radiotherapy.⁴ In this regard, comparable overall and disease-free survival has been noted between initially and secondarily resected neoplasias as long as free margins are achieved. Indeed, in some cases, paradoxically, it has been higher in the second group (20 compared to 33 months average survival).¹

However, the therapeutic strategy adopted by different groups with experience in second-look pancreatic cancer surgery varies considerably; from the most conservative policies (MSKCC) in which re-exploration is only considered when there are at least partial responses with *a priori* curative possibility (R0), to the policy of the University of Duke where they indicate re-laparotomy as long as there is no portal thrombosis or arterial involvement, and to the policy promoted by Massucco et al. who consider resection not only in the case of partial regressions, but also in the case of stable

^{*} Please cite this article as: Gómez García ME, Carbonell Castelló F, Alberola Soler A, Poves Gil PM, García Espinosa R. «Second-look» en adenocarcinoma de páncreas inicialmente irresecable tras quimioterapia neoadyuvante. Cir Esp. 2013;91:683–685.

disease with normalisation of tumour marker levels, assuming down-staging. $^{4-6}$

In any case, resectability rates in secondary surgery vary between 42% and 100%, and survival rates of between 20.5 and 33 months have been documented in these cases, between 1.5 and 6 years in series comprising various tumour types.¹

Furthermore, the involvement of the mesenteric-portal venous axis, which is not uncommon in light of the close link between the pancreatic head and the uncinate process with the superior mesenteric vein and artery, is a clear example of this evolution.^{7,8} Considered inoperable with curative intent for years, numerous authors and at least twelve series in the literature, attest to an increase in the resectability of these cases, with partial vascular exeresis, which is feasible and safe performed by experienced surgeons, with mortality rates of 0%–7.7% and morbidity of 16.7%–54%, and with no substantial differences with respect to resections with no portalmesenteric involvement.^{1,4,7,8}

It is also worth noting that it is a priority to correctly distinguish between infiltration *per se* and peri-tumoural adherences/fibrosis, especially at the mesenteric-portal and retro-portal lamina level, particularly when there has been adjuvant treatment beforehand (chemo-radiotherapy).⁴

The following is the case of a 40-year-old patient with a history of DMID and ulcerative colitis; an abdominal ultrasound was requested due to hypertransaminasaemia, which detected an SOL in the head of the pancreas.

The study was completed using CT/MRI which revealed a $38 \text{ mm} \times 40 \text{ mm}$ neoplasia in the head of the pancreas, with ectasia of the duct of Wirsung and retrograde dilatation of the bile duct, with significant adenopathy and no apparent infiltration of the mesenteric-portal axis (Fig. 1).

A multidisciplinary assessment was made and cephalic duodeno-pancreatectomy was suggested. Surgical exploration revealed a large tumour compromising the pancreatic head,



Fig. 1 – Pre-surgery abdominal-pelvic CT axial image. A tumourous lesion was identified located in the head of the pancreas although the porto-mesenteric infiltration which actually existed could not be confirmed.

body and tail. Mercadier's method was impossible due to widespread infiltration of the mesenteric-portal vessels. The diagnosis of adenocarcinoma was confirmed by intra-operative biopsy and, as it was unresectable, the decision was made not to proceed.

The patient was assessed by Oncology, and received five cycles of chemotherapy, Folfirinox scheme.

Significant tumour involution was observed, and secondlook surgery was agreed.

Total duodeno-pancreatectomy and splenectomy were performed, clamping and section of portal vein and superior mesenteric and vascular reconstruction with 8 mm Gore-Tex prosthesis creating the relevant mesenteric/portal anastomosis (total clamping time 60 min) and reestablishing transit with a Braun-type hepaticojejunostomy/transmesocolic jejunostomy/gastrojejunostomy/jejuno-jejunostomy.

While the patient was hospitalised, the correct permeability and functioning of the portal prosthesis was checked by means of Doppler ultrasound and at present, twelve months after initial surgery and with pathology reporting of R0 resection and absence of malignant cells, the patient is undergoing capecitabine/gemcitabine chemo-radiotherapy on an outpatient basis with no evidence of disease (Fig. 2).

To conclude, we note the promising results in terms of resectability/survival achieved with neaodjuvant oncological treatment and rescue surgery³ such as in the case described here, an even better prognosis having been confirmed for tumours which, initially borderline, were subjected to a protocol of chemo-radiotherapy/prior to a second look in the case of downstaging/stable disease with a reduction in markers.⁴

Therefore, pending randomised studies providing scientific evidence, we consider that a multidisciplinary committee should assess and agree management strategies for pancreatic neoplasias at the limit of resectability and establish rescue criteria (second-look surgery) to identify patients who could benefit from this ambitious approach.¹



Fig. 2 – Abdomino-pelvic CT scan with post-operative intravenous contrast (portal phase). Gore-tex portal prosthesis, with suitable fill and flow, without contrast extravation at the anastomosic level. No evidence of oncological disease.

As an added limitation, we end by highlighting that although there are data of similar morbidity and mortality rates with respect to conventional resection in resectable cases, this is certainly highly demanding and extremely difficult surgery which requires expert qualified specialists.⁴

REFERENCES

- 1. Michalski CW, Kleef J, Bachmann J, Al-Khatib J, Erkan M, Esposito I, et al. Second-look operation for unresectable pancreatic ductal adenocarcinoma at a high-volume center. Ann Surg Oncol. 2008;15:186–92.
- Wagner M, Redaelli C, Lietz M, Seiler CA, Friess H, Buchler MW. Curative resection is the most important factor determining outcome in patients with pancreatic adenocarcinoma. Br J Surg. 2004;91:586–94.
- Sasson AR, Hoffman JP, Ross E, Kagan SA, Pigpank JF, Eisenberg BL. En bloc resection for locally advanced cancer of the pancreas: is it worthwile? J Gastrointest Surg. 2002;6:147–58.
- Massucco P, Capussotti L, Magnino A, Sperti E, Gatti M, Muratore A, et al. Pancreatic resections after chemotherapy for locally advanced ductal adenocarcinoma: analysis of perioperative outcome and survival. Ann Surg Oncol. 2006;13:1201–8.
- Kim HJ, Czischke K, Brennan MF, Conlon KC. Does neoadyuvant chemoradiation downstage locally advanced pancreatic cancer? J Gastrointest Surg. 2002;6:763–9.

- White RR, Hurwitz HI, Morse MA, Lee C, Anscher MS, Paulson EK, et al. Neoadyuvant chemoradiation for localiced adenocarcinoma of the pancreas. Ann Surg Oncol. 2001;8:758–65.
- 7. Ramacciato G, Mercantini P, Petrucciani N, Giaccaglia V, Nigri G, Ravaioli M. Does portal-superior mesenteric vein invasion still indicate irresecability for pancreatic carcinoma? Ann Surg Oncol. 2009;16:817–25.
- Siriwardana HP, Siriwardena AK. Systematic review of outcome of synchronous portal-superior mesenteric vein resection during pancreatectomy for cancer. Br J Surg. 2006;93:662–73.

María Eugenia Gómez García^{*}, Fernando Carbonell Castelló, Antonio Alberola Soler, Pedro Manuel Poves Gil, Rafael García Espinosa

Unidad Hepato-Biliopancreática, Servicio de Cirugía General y Aparato Digestivo, Hospital de la Ribera, Alzira, Valencia, Spain

*Corresponding author.

E-mail address: mar_eugg@hotmail.com (M.E. Gómez García).

2173-5077/\$ – see front matter © 2012 AEC. Published by Elsevier España, S.L. All rights reserved.

A Bariatric Surgery Programme in Adolescents. Preliminary Results

Programa de cirugía bariátrica en adolescentes. Resultados preliminares

Recent data from the 2008 Spanish Growth Study show that the rate of overweight children, adolescents and young adults from the ages of 4–24 has increased by approximately 10% in the last twenty years. At present, it is estimated that 20% and 15% of male and female children and young adolescents respectively are overweight and that 5% of this population and in this age range are obese.^{1–5}

In this context, our Paediatric Endocrinology Department has pioneered the design and development of programmes aimed at the prevention and integral treatment of childhood and youth obesity ("Niñ@s y adolescent@s en movimiento").⁶

Initially, we decided to start our activity by assessing the efficacy and safety of endoscopic intra-gastric balloon placement in morbidly obese adolescents as this is a minimally invasive method which is reversible and does not alter the absorption or digestion of nutrients and which could reinforce the behavioural therapy and lifestyle changes which these patients had already started.⁷ Our preliminary experience with this technique is limited to eight patients between 13.9 and 17.9 years of age (five females and three males) with an average BMI of 46.2 \pm 6.4, all of them presenting one or more severe comorbidities. The results obtained 18–24 months post IGB explant show that a group of four patients had maintained the weight loss achieved (BMI-SD loss of -11.0 ± 3.7) whereas the remainder had regained or slightly increased in weight prior to the IGB implant (BMI-SD of $+2.3\pm2.4$). The partial effectiveness obtained with this technique was a determining factor in forming and developing a programme of "bariatric surgery for adolescents". Table 1 shows the inclusion criteria and relative contraindications adopted.

This programme is based on the Bariatric Surgery Unit's experience and good results after more than 600 operations and incorporating the *DaVinci* robot (Intuitive Surgical, Sun Valley, CA, USA), which has already been used in seventy

^{*} Please cite this article as: Vilallonga R, Yeste D, Lecube A, Armengol M, Fort JM. Programa de cirugía bariátrica en adolescentes. Resultados preliminares. Cir Esp. 2013;91:685–687.