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Cystic pancreatic neuroendocrine tumors

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Key words: Cystic pancreatic neuroendocrine tumor. Pancreatic endocrine or neuroendocrine tumor. Endoscopic ultrasonography.

Dear Editor,

Cystic pancreatic neuroendocrine tumors (cPNETs) represent less than 8% of all pancreatic cysts and approximately 13% (1) of pancreatic endocrine tumors (PNETs). According to a recent review (1), the percentage of non-functional (NF) PNETs is 85% and 44.6% are incidentalomas. In our series of 75 PNET cases, ten cPNET cases (13%) were identified which are discussed and summarized below (Table 1).

Case report

A 41-year-old asymptomatic male underwent a routine checkup via ultrasonography (US) and computed tomography (CT) and a 20 mm cyst was identified in the pancreatic tail (incidentaloma). Subsequently, a unilocular cystic lesion of 17 x 25 mm in size was identified in the pancreatic tail via 5 and 7.5 MHz EUS. Transgastric fine needle aspiration (FNA) (one pass) was performed with a 22G needle. Cytological analysis identified a chromogranin, synaptophysin-positive cystic pancreatic neuroendocrine tumor. The patient subsequently underwent surgery.

Discussion

According to the literature, cPNETs are usually non-functional, asymptomatic growths but may also be associated with multiple endocrine neoplasia (MEN). Occasionally, they are functional lesions (gastrinoma, etc.) and most of them are benign with a good prognosis, as in this case.

cPNETs may be incidental findings during imaging studies (US, contrast enhanced ultrasound [CEUS], CT and magnetic resonance imaging [MRI]) or endoscopic procedures, as occurred with most of our patients.

In a series of 19 cPNETs collected over 12 years, two patients had MEN (10.5%) and two had metastatic disease (10.5%). FNA-EUS effectiveness was 63% and low CEA levels were found in the cystic fluid (2).

In the most recent reported series with cohorts of more than 50 cases (3-5), most lesions were NF PNETs and incidentalomas, which is consistent with our series. We believe the percentage of incidentalomas and NF cPNETs is higher than 80%, with numbers reaching 95% in the most extensive series thus far reported (5). In the review by Hurtado-Pardo et al. (1), NF PNET were estimated to account for 85% of cases, whereas incidentalomas represent 44.6% of cases. We feel that this is lower than the actual rate.

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Table 1. Characteristics of ten cases

Cases	no. 1	no. 2	no. 3	no. 4	no. 5	no. 6	no. 7	no. 8	no. 9	no. 10	Summar
Age, sex	61 M	41 M	60 F	81 M	71 M	62 F	55 M	64 M	74 M	70 M	4 M : 1 F
Functional	F: ZES	NF	NF	NF	NF	NF	NF	NF	F?	NF	9/10 NF
Incidental	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	8/10 80%
Imaging	US/CT/SRS-	US/CT+	CT/MRI+	CT+	US/CT/MRI+	CT+ SRS-		CT+ 13 mm	CT/PET+	US/CT/MRI+	
EUS+	Anechoic	Anechoic	Mixed	Anechoic	Anechoic	Anechoic	Anechoic	Anechoic	Mixed	Anechoic	Uniloc.

											mixed
Size	4 mm body	25 mm tail	30 mr head		20 mm tail	10-15 mı tail		20 mm tail	15 mm body	11.2 mm body-tail	10 cm tail	4 cm head	50% tail
EUS-FNA	Not performed	Yes+	No		No	Yes+	Yes + Ki67 1%		Yes+ < 2%	Yes insuf.	No	Yes+ < 2%	6 cases
		22G				22G	22G		22G	22G		22G	1-2 pass
Surgery	No, control	Yes, Confirmed	Yes 11%	Ki67	Yes Ki67 > 3%	yes	Yes 2.8	Ki67	?	Control	O-ChT	?	50% surg
Follow-up	Yes										Death		10% dea
													10/75 (1