

# Incidental Histological Diagnosis of Small Pancreatic Neuroendocrine Tumours: Are We Underestimating Their Incidence?

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## Background

Pancreatic neuroendocrine tumours (PanNET) have been traditionally considered as rare lesions, but during the last two decades their incidence has raised from 0.4 to 0.8 per 100,000 inhabitants. These epidemiological data are, though, still far from those reported in large autoptic series, according to which the rate of incidental PanNET is comprised between 1.5 and 3%. The aim of this study was to determine the frequency of incidental histological diagnosis of PanNET in pancreatic specimens evaluated for other resected neoplasms.

## Methods

1074 histopathological examinations of pancreatic specimens performed in 3 high-volume centers in Italy were retrospectively reviewed. All the cases with a main pathological diagnosis of PanNET were excluded.



**Figure 1.** A 2 mm pancreatic PanNEM [green circle] found in the pancreatic body, close to the splenic artery (E&E, 6X).

## Results

An incidental PanNET or pancreatic neuroendocrine microadenoma (PanNEM) was found in 41 surgical specimens (4%) (**Table 1**). Of these patients, 29 (71%) had a tumor < 5 mm (PanNEM) (**Figure 1**), whereas the remaining 12 (29%) had a tumor ≥ 5 mm (PanNET). The median diameter of incidentally discovered PanNEM/PanNET was 3 mm. When comparing patients with incidental diagnosis of PanNEM/PanNET and those without, no differences were found in terms of demographic and clinical characteristics (**Table 2**). On the contrary, a significant difference in terms of main pathological diagnosis was found, as patients with an incidentally discovered PanNEM/PanNET had a significantly higher frequency of intraductal papillary mucinous neoplasms (IPMN) and a lower rate of adenocarcinomas ( $P=0.048$ ).

Variable	n 41 (%)
<b>Localization</b>	
Head	24 (58)
Body	9 (22)
Tail	8 (20)
<b>Ki67, %</b>	
1	8 (20)
2	1 (2)
Not measured	32 (78)

**Table 1.** Features of 41 PanNEM/PanNET incidentally found in the surgical specimen.

Variable	No incidental NET n 1033 (%)	Incidental NET n 41 (%)	P
<b>Gender</b>			
Male	518 (50)	22 (46)	0.659
Female	515 (50)	19 (54)	
<b>Age, years</b>			
≤ 65	518 (50)	18 (44)	0.433
> 65	515 (50)	23 (56)	
<b>Diabetes</b>			
No	901 (87)	37 (90)	0.568
Yes	132 (13)	4 (10)	
<b>Smoke</b>			
No	582 (56)	28 (68)	0.130
Yes	451 (44)	13 (32)	
<b>Main Diagnosis</b>			
Adenocarcinoma	497 (48)	14 (34)	<b>0.048</b>
Periampullary	140 (14)	5 (12)	
IPMN	189 (18)	13 (32)	
Mucinous cyst	38 (4)	4 (10)	
Other	169 (16)	5 (12)	

**Table 2.** Comparison between patients with and without an incidental NET diagnosis.

## Conclusions

The frequency of incidental histological diagnosis of PanNET/PanNEM is considerably high, suggesting that their real incidence is probably underestimated. Interestingly, there seems to be an histological correlation with IPMN.