Pancreatic Incidentalomas: Asymptomatic often Malignant Lesions

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Editorial

The term incidentalomas means a non-symptomatic lesion, detected during imaging or biochemical studies for unrelated causes. The constant improving of high-quality imaging has increased the number of asymptomatic solid or cystic masses that can be detected. The most common incidentalomas described in literature are located in the adrenal gland, thyroid, liver, heart and prostate. Their prevalence and their management are well described and largely accepted [1]. Among these, Pancreatic Incidentalomas (PI) are becoming more and more common, but data regarding their prevalence and treatment strategy are still poor and consequently some aspects of their management are still debated.

According to the current literature, PI prevalence is 10% in the adult population, reaching 30% in the elderly [2]. They are usually detected during workups for non-pancreatic symptoms or follow-ups for other malignant pathologies.

The biological nature of PIs is represented by a wide range of neoplasms: Pancreatic Ductal Adenocarcinoma (PDAC), Intraductal Papillary Mucinous Neoplasms (IPMN), Mucinous Cystic Neoplasms (MCN), Serous Cystadenomas (SCA), Non-Functional Neuroendocrine Tumors (NET), Acinar Cell Carcinoma (ACC) and Solid Pseudopapillary Neoplasm (SPPN) [3,4]. In a case series published by Lahat et al. [1] PDAC was the most common finding among PIs, followed by IPMN and MCN.

Although they present with no symptoms related, these lesions can be premalignant or even already malignant. PIs could be categorized into solid and cystic lesions. Cystic PIs frequently show a benign or premalignant nature while solid PIs are usually considered malignant masses. According to recent studies, size >20 mm and biliary dilatation are related to malignancy and, when simultaneously present, the frequency of malignancy is above 90% [5]. It is important to underline that pancreatic adenocarcinomas located in the head of the gland are more frequently symptomatic than body and tail neoplasms. They are responsible for jaundice, main pancreatic duct dilatation and its related symptoms such as endocrine and exocrine pancreatic insufficiency.

The detection of asymptomatic lesions represents also a significant issue in those individuals with strong family history of PDAC. These are patients with an inherited predisposition, like Peutz-Jeghers syndrome, family breast and ovarian cancer and hereditary nonpolyposis colorectal cancer, who could benefit a screening program. Canto et al. [6] recently demonstrated that screening programs for these asymptomatic patients could easily detect small pancreatic lesions. In these cases MRI and endoscopic ultrasonography detect PIs better than CT [6].

Since not all lesions have malignant potential, the operative strategy could be complex and surgeons must consider the risks and benefits of performing a potentially morbid operation for a possible benign condition [7].

It is well-known that surgical treatment for pancreatic lesions is characterized by high rate of mortality and morbidity. Mortality after a pancreaticoduodenectomy (PD) procedure is reported as 1% to 3% in high volume centers and up until 10% in smaller ones [8], while morbidity concerns about 30% to 40% of patients [9]. The most frequent sources of postoperative morbidity include postoperative hemorrhage, delayed gastric emptying, postoperative pancreatic fistula and intra-abdominal abscess [10].
When the tumor is located in the body or the tail of the pancreas a distal pancreatectomy (DP) with splenectomy must be performed. Splenectomy is performed for two reasons. First to perform an adequate lymphadenectomy and second for technical reasons when tumors are very close to the splenic hilum [11]. For benign disease, spleen preserving DP should be suggested, in order to prevent several types of post-splenectomy complications such as thrombocytosis, venous and arterial thrombosis and postsplenectomy infections. Mortality after DP approximates to 0% [12].

Both PD and DP can be performed with a minimal invasive approach, which is connected to lower rates of complications, better intraoperative outcomes and faster postoperative recovery [13].

Recently laparoscopic approach for distal pancreatic incidentalomas was suggested, and proven safe and feasible if performed in selected patients with minor comorbidity [11].

While minimal-invasive DP is widely performed, laparoscopic PD gets performed only in high-volume specialized centers [14]. Consequently the location of the neoplasm in the gland highly influences the surgical treatment and overall outcomes.

Early identification represents a milestone in reducing deaths for cancer. In fact, in Lahat series, non-incidentalomas were more poorly differentiated than incidentalomas but, it is crucial to emphasize that there is no evidence in literature that earlier detection of symptomatic masses is related to higher survival rates [15].

In fact, consistent data about the survival rates after surgery for PI are lacking in the literature. In recent studies conducted by Bouquot et al. 881 pancreasectomies were analyzed: 32% of cases were performed for PIs, of which only 50% resulted malignant [5]. In this series mortality and morbidity were not different between PIs group and symptomatic group. The Authors concluded that careful selection is needed to avoid under or over treatment of PIs.

In conclusion when and how to treat these lesions is still controversial: considering the non-symptomatic presentation, surgical indication must be carefully evaluated. In case of cystic incidentalomas of the pancreatic head a selective approach toward resection is recommended; conversely a solid lesion located in the distal pancreas should be always considered for surgical procedure. However the impact of the postoperative morbidity must be considered in each case. Currently definitive criteria to establish proper selection for conservative or operative approach are still lacking. Waiting for more specific studies and guidelines, many authors sustain an aggressive approach. Nevertheless a significant advantage in terms of survival has not been proven yet.

References


