

## **‘Recurrent Acute Pancreatitis’ Introduction**

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Recurrent acute pancreatitis still remains a complex diagnostic and therapeutic challenge in clinical practice. Recurrent bouts of pancreatitis mainly occur in a gland which shows a normal morphology at the time of diagnosis, so that it is generally believed that such a clinical entity is characterized by repeated episodes of pancreatitis occurring in a normal pancreas. However, in a number of cases, mild to moderate alterations of the pancreatic ductal system, suggesting a chronic process, are seen either at the onset of the disease or during the follow-up period. Therefore, the observed pancreatic lesions can either suggest in these patients the presence of an underlying chronic process which evolves over time with recurrent attacks of acute pancreatitis or can be the consequence of multiple, single, self-limited acute inflammatory episodes that induce persistent lesions within the gland with time. In all cases, morphological abnormalities are likely to be the consequence of a persistent or repeated obstructive mechanism.

It is generally believed that, in about 70% of cases, a correct aetiological diagnosis is achieved by means of clinical history, standard imaging techniques - including computed tomography (CT) scan, endoscopic retrograde cholangio-pancreatography (ERCP) - and, more recently, magnetic resonance cholangio-pancreatography (MRCP). The latter provides a detailed morphology of the pancreato-biliary system, without procedure-related risks and therefore,

when available, it should be utilized instead of ERCP as an initial diagnostic step.

Another significant improvement in the knowledge of aetiological factors has been achieved by the introduction, in clinical practice, of sphincter of Oddi manometry, testing for cystic fibrosis transmembrane conductance regulator- (CFTR-) and cationic trypsinogen-gene mutations, and the microscopic search for bile crystals in the collected bile. Sphincter of Oddi manometry and the search for bile crystals may improve the diagnostic yield in patients in whom both pancreato-biliary junction and duct have a normal appearance. This reveals the major role played by sphincter of Oddi dysfunction, either of the biliary or pancreatic segment, and by bile sludge or microlithiasis in the occurrence of “so-called” idiopathic recurrent pancreatitis. However, manometric investigation of the sphincter of Oddi fails to document some dysfunction in a progressively increased percentage of patients in Type 2 and Type 3 dysfunction, respectively, when the need for definite findings is highest. In these conditions, not only does manometry not provide a definite diagnosis in a consistent number of patients, but it is also associated with a relatively high incidence of post-procedure pancreatitis which is less acceptable after a diagnostic and eventually useless procedure than after therapeutic ERCP. The introduction in clinical practice of ultrasound- (US-) and the MRCP-Secretin test could provide indirect

information about sphincter function avoiding procedure-related risks. However, at this time, experience with these procedures is confined to a few centers and further investigation involving more patients is required. Endoscopic bilio-pancreatic manometry using solid state catheters, as recently proposed by some investigators, could provide reliable manometric recordings with a reduced risk of post-procedure pancreatitis since intraductal perfusion is avoided. However, the catheters are fragile, expensive and probably more difficult to handle in routine practice. Despite the introduction of these sophisticated diagnostic procedures, the causes of recurrent pancreatitis still remain unknown in a number of patients.

In cases with normo-functional findings however, the successful results with long-term ursodeoxycholic (UDCA) oral therapy, endoscopic biliary and/or pancreatic sphincterotomy, and cholecystectomy still confirm that bile microlithiasis or sludge and sphincter of Oddi dysfunction play a major role in the occurrence of the so-called "idiopathic recurrent pancreatitis". In fact, at present, we can affirm that, in no more than 10% of cases, cannot the inciting factors be identified or suspected.

The aim of the present virtual round table has been to provide a comprehensive overview of the current knowledge on recurrent acute pancreatitis. Aetiological factors, diagnostic

and therapeutic procedures, and management of difficult cases are discussed in depth; tentative diagnostic and therapeutic flow charts are proposed on the basis of recent diagnostic techniques.

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**Key words** Cholangiopancreatography, Endoscopic Retrograde; Dissertations, Academic; Magnetic Resonance Imaging; Manometry; Oddi's Sphincter; Pancreatitis; Recurrence

**Abbreviations** CFTR: cystic fibrosis transmembrane conductance regulator; CT: computerized tomography; ERCP: endoscopic cholangio-pancreatography; MRCP: magnetic resonance cholangio-pancreatography; UDCA: ursodeoxycholic acid; US: ultrasound

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