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State-of-the-Art Lecture.

NON-ALCOHOLIC FATTY PANCREAS DISEASE – CLINICAL CONSEQUENCES

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Department of Gastroenterology and Internal Medicine, University Hospital Brno, Brno, Czech RepublicState-of-the-Art Lecture

ABSTRACT

Nonalcoholic fatty pancreas disease (NAFPD) is a rather common disorder. Prevalence of NAFPD is increased in patients with metabolic syndrome, obesity or carbohydrate metabolism disorders. NAFPD is morphologically characterized by pancreatic fat accumulation. Mechanisms that lead to pancreatic fat accumulation are not fully explained. Current evidence suggests a deteriorative effect of pancreatic fat accumulation on pancreatic endocrine function and an association of fat accumulation in pancreatic beta cells with their dysfunction.

The clinical consequences of NAFPD are significant. NAFPD is connected with obesity, with metabolic syndrome, diabetes mellitus type2 and insulin resistance. Where pancreatic steatosis is present, it is prevalently associated a with twofold increase in risk of type 2 diabetes mellitus, metabolic syndrome and arterial hypertension, although the effect of metabolic syndrome on the pancreas has not been well characterized. Further studies in this field are needed to evaluate if pancreatic steatosis is a consequence of metabolic syndrome and obesity, as in non-alcoholic fatty liver disease, or a contributing factor to the development of metabolic syndrome. Extremely important is the fact that diagnosis of pancreatic fat in patients with any one of the components of metabolic syndrome is an indicator for clinical treatment.

NAFPD is a risk factor in pancreatic cancerogenesis, but the mechanism of this process is still unclear. An important role is probably played by lipogenic inflammation altering the tumor microenvironment in a protumorigenic field.

Important also is a connection with exocrine pancreatic dysfunction. NAFPD is, further, a risk factor in acute pancreatitis. NAFPD leads to increased risk of cardiovascular events. Increased aortic intima-media thickness is a marker of atherosclerosis. Similarly an increase in epicardial fat in patients with nonalcoholic fatty pancreas disease is a marker of subclinical atherosclerosis.

The detection of NAFPD may be an opportunity to advise patients regarding a risk of steatohepatitis. There is evidence that nonalcoholic fatty pancreas disease is associated with nonalcoholic fatty liver aggravation. Nonalcoholic fatty pancreas disease significantly correlates with advanced liver fibrosis, whereas extensive nonalcoholic fatty pancreas disease is a predictive factor in liver fibrosis and in nonalcoholic steatohepatitis (NASH).

NAFPD is not an innocuous condition; on the contrary it is an etiological factor in many important diseases. Early and correct diagnosis of NAFPD and identification of potential clinical consequences are important challenges in pancreatology and beyond.

1. Acute and Chronic Pancreatitis Clinical.

Severe acute pancreatitis: emphasis on minimally invasive interventions and ERAS conception in both phases of the disease.

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Introduction: Severe acute pancreatitis (SAP) is one of the most serious surgical problems of emergency surgery and is the cause of high mortality. Worldwide, the incidence of acute pancreatitis ranges between 5 and 80 per 100,000 population. In the last three decades open procedures and minimally invasive techniques have been used to manage acute pancreatic necrosis and its local complications in both early and late phases of the disease [1,2].

Purpose: The aim of our study was an improvement of surgical results using step-up approach surgery tactics in SAP.

Materials and methods: The results of the treatment of 138 patients in 2018 -2021 were analyzed. All patients were divided into two groups: the main (93) and the comparison group (46 patients). In the main group, the tactics of the step-up approach were applied and the principles of the ERAS concept (2019-2021) were implemented. In the comparison group (2018-2019), the ERAS principles were not implemented.

Results: We have used puncture, puncture-drainage under ultrasound, computer navigation, laparoscopic interventions, angiography technologies, and local open methods of surgical intervention. The step-up approach to the treatment and principles of the ERAS concept was applied in the main group, their activation began on the first day, and on the third, they have already been fully mobile. In the first group, the mortality rate was 10.9% (n = 10), and the average duration of treatment was 14.4 days. In the second group, the mortality rate was 19.6% (n = 9), and the average duration of treatment was 20.4 days. Mortality had been 13.7% in all groups among patients with a step-up approach.

Conclusions: This study had demonstrated the appropriateness of applying the principles of fast-track surgery in the complex treatment SAP using a step-up approach to the treatment.

Reference:

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Post-pancreatitis diabetes mellitus Ц a high-volume tertiary center experience

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Introduction: Diabetes of exocrine pancreas is a common feature of chronic pancreatitis (CP), with a clinically challenging distinction from type 2 diabetes mellitus (T2DM). A recently proposed term Уpost-pancreatitis diabetes mellitusФ (PPDM) aims to simplify this differentiation and help medical practitioners to properly address the unmet needs of CP patients.

Purpose: To determine incidence, risk factors, rate of diabetic complications and antidiabetic therapy requirement in PPDM patients.

Materials and methods: We retrospectively assessed prospectively collected data of 481 patients with definite CP according to M-ANNHEIM criteria, who presented at Karolinska University Hospital between January 1999 and December 2020. The CPЦT2DM group comprised individuals diagnosed with diabetes prior to pancreatitis or <= 90 days after the first CP diagnosis. The PPDM group consisted of patients diagnosed with diabetes > 90 days after the date of first pancreatitis diagnosis.

Results: Patients with PPDM exhibited male predominance (75% vs. 55%, p<0.001), with more frequent alcoholic etiology (62% vs. 44%, p=