Pancreatic Resections: Are There Preoperative Factors Related to a “Soft Pancreas” and Are They Useful in Predicting Pancreatic Fistulas?

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Context Soft pancreatic parenchyma is the most widely recognized risk factor for pancreatic fistulas. Objective To evaluate factors related to a “soft pancreas”. Methods Retrospective study of patients who underwent pancreaticoduodenectomy or left pancreatectomy. Factors considered were: sex, age, co-morbidities, body mass index, American Society of Anesthesiologists (ASA) score, characteristics of the pancreatic remnant and preoperative diagnosis. Principal endpoints were: to recognize preoperative factors related to a soft pancreatic remnant and to establish if they are useful in predicting a pancreatic fistula. Results Two hundred and eight patients were recorded. The pancreatic fistula rate was 29.3% and it was significantly related to the type of resection, the soft texture of the pancreatic remnant (P=0.037), a Wirsung duct diameter <3 mm and the preoperative diagnosis. The risk factors predicting a soft pancreatic remnant, were BMI >24 kg/m² (P=0.011); a Wirsung duct size ≤3 (P<0.001) and patients with periampullary diseases (P<0.001). Based on these three factors, we developed a risk score model that was validated by considering the pancreatic fistula rate. We noted that the overall and clinically relevant pancreatic fistula rate significantly increased with increasing score values (P=0.002 and P=0.028, respectively). Using a score cut-off value of 6 points, patients with a score <6 were considered to be at low risk; those with a score ≥6 were considered to be at high risk. Conclusions Body mass index >24 kg/m², Wirsung duct size <3 mm and preoperative diagnosis may be considered as preoperative factors related to a soft pancreas and they resulted useful in predicting the incidence of pancreatic fistulas.