

Postoperative Serum Hyperamylasemia (POH) Predicts Additional Morbidity After Pancreatoduodenectomy. It Is Not All About Pancreatic Fistula.

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Background : The association between postoperative serum hyperamylasaemia (POH) and morbidity has been hypothesized but rarely explored once occurring with or without a combined postoperative pancreatic fistula (POPF).

Methods : Analysis of patients who consecutively underwent pancreaticoduodenectomy from 2016 to 2020. POH was defined as serum amylase activity greater than the institutional upper limit of normal (52 U/l), persisting within at least the first 48 hours postoperatively (postoperative day –POD– 1 and 2).

Results : Among 852 patients, 15.8% developed POH-exclusive. Compared to patients without POH or POPF, they showed a significantly higher postoperative burden (Clavien–Dindo \geq II: 52.6% vs. 30.8%) with increased rates of bacteraemia (12.6% vs 6%), pleural effusion (13.3% vs 5.3%), postpancreatectomy haemorrhage (13.3% vs 7.5%), and organ site infections (18.5% vs 10.9%), all $p < 0.05$. A total of 13.8% experienced POH with POPF leading to the worse outcome. The combined occurrence of POH with POPF led to a shorter median time to morbidity (3 PODs, 95% IC 2.2–3.7 vs. 6 PODs, 95% IC 4.2–8; $p < 0.001$) than patients experiencing POPF-exclusive. BMI (OR 1.1), male sex (OR 2.1), increased drain fluid amylase on POD 1 (OR 1.001), and increased C-reactive protein (OR 1.01) were independent risk factors for POPF once POH has occurred.

Conclusions : POH has relevant postoperative clinical implications, independently from POPF occurrence. Developing POH with POPF leads to an earlier onset of a higher postoperative burden. Once POH is diagnosed, risk factors for additional POPF could identify patients who may benefit from additional surveillance and preventive strategies.

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