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Inpatient serum amylase testing post-ERCP

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Dear Editor,

Pancreatitis is a well recognised complication of Endoscopic Retrograde Cholangiopancreatography (ERCP) occurring in between 1-10% of patients undergoing ERCP. The European Society of Gastroenterology (ESGE) suggests defining post-ERCP pancreatitis (PEP) as 'new or worsened abdominal pain combined with >3 times the upper limit of normal value for amylase or lipase at more than 24 hours after ERCP and the requirement of admission or prolongation of a planned admission'[1].There are no consensus guidelines on screening for PEP on inpatients although guidelines from the European Society of Gastroenterology (ESGE) in 2020 recommended 'testing serum amylase 2-6 hours after ERCP in patients with post-procedural abdominal pain who are to be discharged on the day of ERCP'[2]. A recent quality improvement programme from the British Society of Gastroenterology (BSG) recommended against this practice as it is too 'difficult to implement'[3]. However, this approach may be useful for the inpatient ERCP setting, where patients often remain on-site for further follow-up, to help delineate those most at risk of developing pancreatitis and to prevent unnecessary routine serum amylase testing being performed in those without new onset or worsening post-procedural abdominal pain.

A representative sample of 73 inpatient ERCP procedures in a single centre over 1 year were retrospectively assessed to establish the current practice of post procedure serum amylase testing (13.3% of caseload for this period). The mean age of patients in this cohort was 64 years old. 26 patients (35.6%) were male and 47 female (64.4%).

45 patients (61.6%) had serum amylase tests taken within the 48 hour post-procedure window, and 28 (38.2%) did not. Only 5 patients had samples taken within the ESGE recommended 6 hour window. This represents 6.8% of the overall cohort. Median time to testing post-procedure was 19 hours. The quoted normal range for amylase by the laboratory used was 0-100 U/L. 9 of the 45 results (20%) were above the upper limit of

normal (ULN). 6 of the 73 results were >6x ULN and of these, 3 developed PEP (50%). The overall incidence of PEP in this group was 4.1%.

Serum amylase testing within 2-6 hours post-ERCP has been shown to be effective in predicting those at risk of developing PEP. A published meta-analysis by Goyal et al (2022) determined the pooled sensitivity of amylase levels >1-1.5x the ULN as being 84% and pooled specificity for levels >5-6x ULN as 93%[4]. According to ESGE guidelines this should only be conducted on patients with new onset or worsening abdominal pain.

Transient rises in serum amylase are common post ERCP and routine testing of asymptomatic patients may lead to over-investigation and prolonged stay of patients who are not at high risk of developing PEP. The authors would support the practice of performing serum amylase testing within 2-6 hours post procedure only on patients with new or worsened abdominal pain. With only 6.8% of this cohort receiving testing within the recommended timeframe the authors would suggest that strategies, such as awareness campaigns, be implemented for patients meeting these criteria to ensure testing is carried out within this recommended timeframe.

Declarations of Conflicts of Interest:
None declared.

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