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Frequent Ineffectiveness of Cefazolin as Perioperative Prophylaxis in Pancreatic Surgery

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Context Cefazolin is widely accepted as routine antimicrobial prophylaxis in hepatobiliary and pancreatic surgery. Microbial resistance to this drug is rapidly increasing, nullifying the expected beneficial effects of its administration and exposing patients to potentially severe infective complications. **Objective** Analysis of bile culture results and comparison with postoperative outcomes in patients undergoing pancreatic surgery in a referral centre; definition of an alternative prophylaxis schedule. **Methods** Between Jan 2010 and Jan 2013 we performed 170 consecutive major resections requiring abdominal bile exposure, of which 156 pancreaticoduodenectomies and 14 total pancreatectomies. We routinely performed culture on bile samples obtained intraoperatively and on drain liquid samples taken on fifth postoperative day. We then prospectively recorded data about postoperative septic complications and analyzed them consulting our referral infectious disease specialist. **Results** Among the 170 patients, 95 (56%) had positive bile cultures, of which 73 (43%) with multiple microbes. The great majority of microbes obtained belonged to *Enterococcus Spp*. (*E. Faecalis* 29%, *E. Facium* 18%), while other well represented germs were *E. Coli* (18%), *Enterobacter Spp*. (18%), *Klebsiella Spp*. (12%). Eighty patients (47%) received preoperative biliary stenting, which resulted strongly associated with bile infection (100% *vs*. 17%, P<0.001). Bile infection was associated with higher morbidity both in patient with stent (72% *vs*. 56%, P=0.037), and without stent (87% *vs*. 56%, P=0.026). Forty-seven (49%) of infected bile samples harbored microbes resistant to cefazolin; in these patient postoperative infective complication rate was significantly higher (61% *vs*. 39%, P=0.016) than in patients that did not harbor. The rate of cefazolin resistant microbe identification was even higher on drain samples (58%), which shared microbes with previous bile sample in 80% of cases, even though it was not associated with higher morbidity. Analyzing antimicrobial susceptibility of these germs we identify the association ampicillin-sulbactam as a new possible drug for perioperative prophylaxis. **Conclusions** Infective complications in pancreatic surgery could lead to severe consequences. Adequate antimicrobial prophylaxis, selected using epidemiological evidence from patients samples, is mandatory. Ampicillin-sulbactam could be a viable alternative to cefazolin in surgical procedures involving abdomen bile exposure, although further studies are necessary to validate this drug benefits.