

### **Optimal Duration of Prophylactic Antibiotics Administration in Pancreaticoduodenectomy**

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#### **ABSTRACT**

**Purpose:** Pancreaticoduodenectomy (PD) is considered a complex surgical procedure that is associated with a high morbidity. There has been no report on the optimal duration of prophylactic antibiotics administration to date. Mortality and morbidity, including surgical site infection (SSI) after PD, were compared retrospectively taking into account the period of prophylactic antibiotics administration.

**Methods:** This study involved 158 patients who underwent PD between April 2006 and December 2010. Until March 2008 our hospital administered prophylactic antibiotics until post-operative day-2, but beginning in April 2008 they were administered only until post-operative day-1. Group A consisted of 71 consecutively treated patients who received cefmetazole (CMZ) as a prophylactic antibiotic intra-operatively and for 2 days post-operatively. Group B consisted of 87 consecutively treated patients who received CMZ intra-operatively and for 1 day post-operatively. During the study period, peri-operative management was standardized according to our departmental guidelines.

**Results:** There were no significant differences in post-operative complications between the two groups. The most commonly isolated microorganisms from surgical drainage fluid were Enterobacter and Enterococcus species. Pre-operative biliary drainage was an independent risk factor for SSI ( $p < 0.05$ ).

**Conclusion:** Limiting prophylactic antibiotics administration until post-operative day-1 did not increase morbidity after PD. However, we recommend long-term administration of prophylactic antibiotics for patients who undergo pre-operative biliary drainage.

**Key words:** Prophylactic antibiotics, surgical site infection, Pancreaticoduodenectomy, pre-operative biliary drainage