

# The use of broad-spectrum antibiotics reduces the incidence of surgical site infection after pancreatoduodenectomy

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20496438&lokasi=lokal>

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## Abstrak

### <b>ABSTRACT</b><br>

**Purpose:** The development of surgical site infection (SSI) after biliary reconstruction is highly influenced by the presence of preoperative bacteria in the bile juice. We selected vancomycin and piperacillin/tazobactam (VCM&#8201;+&#8201;PIPC/TAZ) as perioperative prophylactic antibiotics for patients undergoing pancreaticoduodenectomy. This study aimed to retrospectively analyze the effectiveness of VCM&#8201;+&#8201;PIPC/TAZ compared to cefmetazole.

**Methods:** Seventy-two patients who underwent pancreaticoduodenectomy between April 2015 and March 2017 at our department were evaluated. Forty patients were administered cefmetazole as the perioperative prophylactic antibiotic, and 32 were administered VCM&#8201;+&#8201;PIPC/TAZ. The intraoperative VCM blood concentration (incision, biliary reconstruction, and wound closure) was measured during surgery to confirm the hemodynamics.

**Results:** The frequency of SSIs was significantly lower in the VCM&#8201;+&#8201;PIPC/TAZ group (8/32 patients) than in the cefmetazole group (20/40 patients,  $P=0.031$ ). Postoperatively, significantly fewer patients in the VCM&#8201;+&#8201;PIPC/TAZ group (4/32 patients) required&#8201;&#8205;&#8201;15 days of additional antibiotic administration compared to those in the cefmetazole group (14/40 patients,  $P=0.033$ ). Six of 32 patients in the VCM&#8201;+&#8201;PIPC/TAZ group showed redneck syndrome symptoms. There was no significant difference in the VCM blood concentration between patients with and without SSIs.

**Conclusions:** The use of VCM&#8201;+&#8201;PIPC/TAZ can reduce the incidence of SSI after pancreaticoduodenectomy and also reduce the need for the additional administration of antibiotics for&#8201;&#8205;&#8201;15 days after surgery.