Linezolid levels in pancreatic secretions

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Sir,

Linezolid is the first of a novel class of antimicrobial agents, the oxazolidinones, and is effective against a broad range of Gram-positive bacteria including methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci.1

Following parenteral or oral administration, the drug is widely distributed in the body, including skin and soft tissue, liver, spleen, gastrointestinal tract, central nervous system, muscles and bone.2 However, distribution of the drug to other tissues such as the pancreas is not known. In this study we have determined the distribution of linezolid in patients with pancreatic abscesses.

Following necrotizing pancreatitis, two patients developed pancreatic abscesses caused by MRSA. The abscesses were drained at operation and drains left in the pancreatic bed. The two patients were treated with linezolid (600 mg bd for 3 and 7 days, respectively). Levels of linezolid were measured in serum and the drain fluid (confirmed as pancreatic secretions by high amylase levels). The measurement of the linezolid levels was done by high performance chromatography at the Centre for Antimicrobial Research and Evaluation, Bristol, UK.3

In the first patient (Patient A), who received 3 days treatment, the post-dose serum level increased progressively from 6.1 to 29.0 mg/L. The post-dose pancreatic drain fluid levels increased progressively from 0.3 to 31.6 mg/L. The serum pre-dose levels also increased progressively from 0 to 28 mg/L (Figure 1).

In the second patient (Patient B), who received 7 days treatment, the post-dose serum levels increased from 13.5 to 17.7 mg/L on the seventh day. The corresponding pancreatic drain fluid levels also increased from 3.4 to 11 mg/L. Unfortunately, pre-dose sera were not available (Figure 2).

Our study shows that linezolid is distributed satisfactorily to the pancreas at levels higher than MICs for common Gram-positive bacteria, including MRSA.4 Linezolid is therefore likely to be useful in the treatment of such infections of the pancreas. There is also progressive accumulation of linezolid both in the serum and pancreatic abscess, the clinical significance of which is unclear at this time.

References


