

## **Pharmaceutical Support at Cardiovascular and Cardiovascular surgery Ward**

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Pharmacological support for the appropriate use of drugs is important. To promote such support, it is necessary to be involved in drug therapy from viewpoints different from those of physicians and nurses, using tools unique to pharmacists, pharmacologically discuss individual cases, and investigate the validity of prescriptions by accumulating data.

In Chapter 1, digoxin is often administered as a medication for congestive heart failure and heart rate control, and it is necessary to monitor therapy very closely. In addition, patients with an impaired renal dysfunction have a predisposition for developing digitalis toxicity. In clinical cases, digoxin and verapamil are often co-administered for heart rate control, and we have observed the serum trough level of beta-methyl digoxin to be elevated due to drug-interaction. We build upon our previous findings and generated a simple index for the adequate administration dosage of beta-methyl digoxin based on variable degrees of renal function and the serum trough level of beta-methyl digoxin.

In Chapter 2, to investigate risk factors of postoperative infection following cardiac surgery, we conducted a retrospective analysis of two surgical procedures, off-pump coronary artery bypass grafting (OPCAB) and surgery for valvular heart disease (valve operation). After discussing the analysis results with the respective physicians, the dosing guidelines for cefazolin(CEZ) were changed. We also analyzed the rate of CEZ replacement with other antibiotics after surgery finding that it decreased in both groups for OPCAB and valve operations. From these results, we conclude that, if CEZ is also administered intra-operatively when surgery is prolonged, its administration for two days following surgery is adequate for prophylaxis against postoperative infection.