

## Pharmacokinetics of 7 cephalosporines antibiotics in dog's bile

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### Abstract

**AIM:** Study the pharmacokinetics of 7 cephalosporine antibiotics in bile of dogs so as to select appropriate antibiotics for biliary infection.

**METHODS:** Experimental dogs were administered separately with i.v. cefoperazone, ceftriaxone ceftazidime, cefazolin, ampicillin, cefuroxime, and cefmetazone. Drug concentrations in the bile of the dogs were measured by microbiological method. With 3p<sub>87</sub> software, the maximum of concentration (C<sub>max</sub>), peak time (T<sub>peak</sub>), half-life (T<sub>1/2β</sub>), clearance (CL), apparent

volume of distribution (V<sub>a</sub>) of each antibiotic were calculated were in bile.

**RESULTS:** C<sub>max</sub> of cefoperazone was the highest (2464 ng/L); C<sub>max</sub> of ceftriaxone was lower than cefoperazone, but T<sub>1/2β</sub> ceftriaxone was the longest (6024 min). The C<sub>max</sub>, T<sub>1/2β</sub> of cefazolin, ceftazidime, ampicillin was lower than the former two but they were significantly higher than cefuroxime ceftriaxone and cefoperazone was the first choice.

**CONCLUSION:** Among this group of seven antibiotics, in the treatment of biliary infection, ceftriaxone is the first choice, and cefoperazone is the second one. cefamedin and ampicillin are not so good as the former two, but they have advantages of low cost, and still can be used in treating biliary infection while cefuroxime and cefmetazone are not accessible.

**Key words:** Biliary infection/drug therapy; Cephalosporins/therapeutic use; Cephalosporins/Pharmacokinetics

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