

EFFECT OF MICAFUNGIN AND CASPOFUNGIN ON HISTAMINE RELEASE, BLOOD PRESSURE AND HEART RATE IN RATS

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Background: The investigational drug, micafungin, and the commercially available drug, caspofungin (Cancidas®) are new antifungal compounds within the echinocandin class. **Methods:** Studies were conducted, in a rat model, to determine the comparative effects of these drugs on histamine release and on blood pressure and heart rate. Micafungin (10, 32, or 100 mg/kg), caspofungin (1, 3.2, or 10 mg/kg), or saline vehicle (control) was administered IV to unanesthetized rats. Blood samples for histamine determination and hemodynamic measurements were obtained at timed intervals (5-120 minutes) following drug administration. **Results:** Micafungin at a dose of 32 mg/kg, but not at 10 mg/kg, caused significant, transient histamine release and caspofungin at a dose of 10 mg/kg caused significant prolonged histamine release compared to controls. Micafungin demonstrated a transient significant decrease in blood pressure at only the 100 mg/kg dose. No change in heart rate was observed at any dose levels. Caspofungin persistently decreased blood pressure compared to control at 3.2 mg/kg or higher with a marked reduction up to 50% at 10 mg/kg. Heart rate was decreased persistently at 10 mg/kg. **Conclusion:** Caspofungin has a greater potential to cause histamine release and accompanying hemodynamic instability than does micafungin. The histamine releasing activities and hemodynamic effects of caspofungin occurred at lower doses and were more pronounced and more prolonged than those of micafungin.