

ALCOHOL-ANTIBACTERIAL DRUG INTERACTIONS: COMPARISON OF THREE DRUG COMPENDIA

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Background

Drug/drug interactions and drug/alcohol interactions may lead to adverse effects and treatment failure. Health care professionals rely on drug interaction compendia to address these problems, but research on information regarding the existence of interactions and their clinical relevance has shown significant discrepancies between commonly used sources.¹⁻⁶

Objective

The purpose of this work, which is part of a larger study, is:

- To compare information on alcohol-antibacterial interactions in three drug compendia;
- To assess the consistency among these literature sources;
- To summarise information on interactions with greater concordance.

Study design

Data on interactions between alcohol and antibacterial drugs were retrieved from three standard compendia:

- Hansten & Horn's Drug Interactions Analysis and Management (2013 edition)⁷
- Micromedex system (accessed June 2014)⁸
- Stockley's Drug Interactions (2010 edition)⁹

Drugs with an ATC code J01 were considered, plus metronidazole and nitroimidazole-related compounds, which are regularly used in bacterial infections.

Data on the interaction mechanism, severity and management were extracted for interactions documented in at least two of these sources.

Results

Stockley's documented 17 interactions while Micromedex and Hansten & Horn listed seven and six, respectively.

Figure 1 depicts the interactions between alcohol and antibacterial found in the three compendia. Only **cefamandole, metronidazole and tinidazole** had interactions listed in all sources.

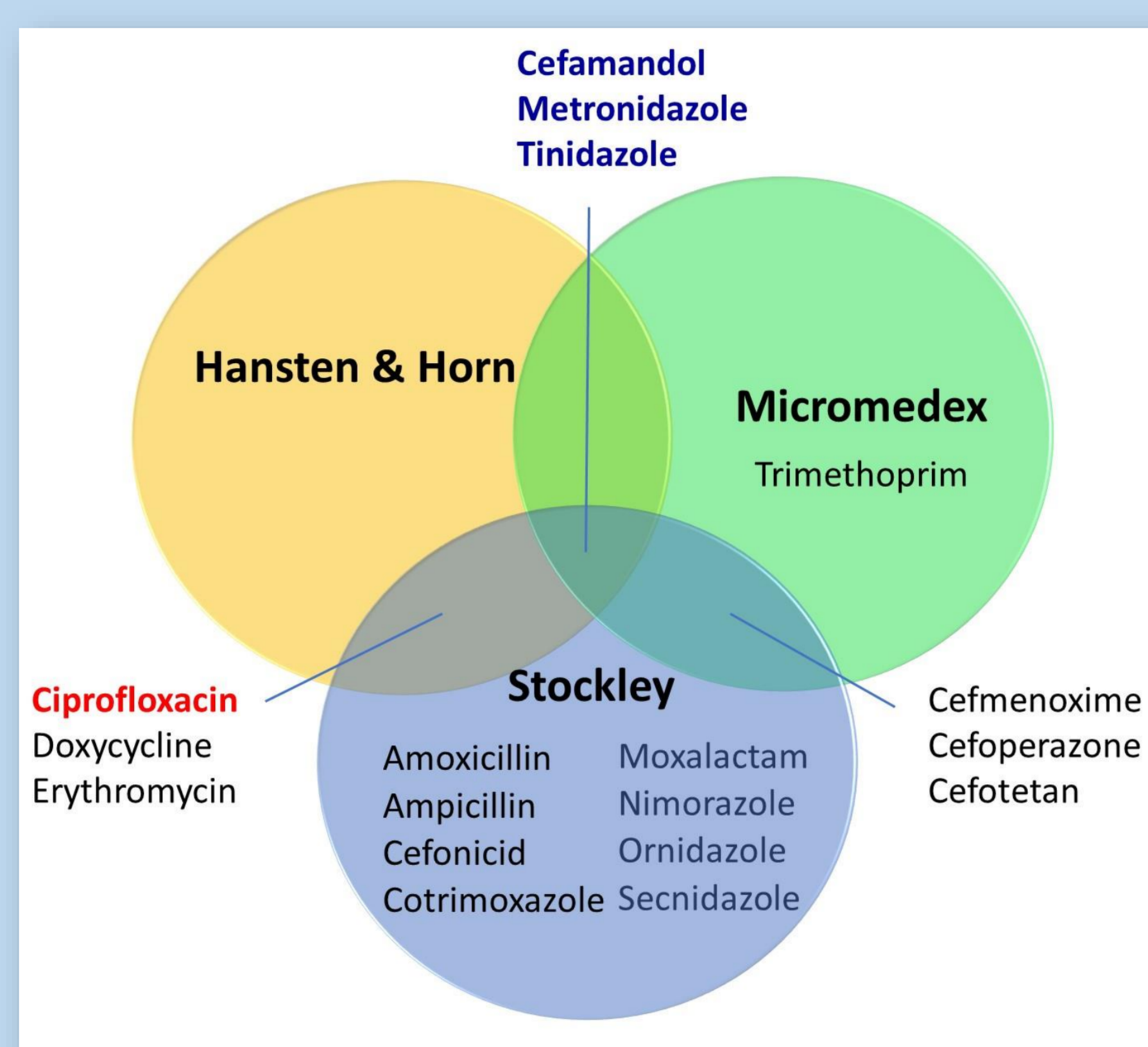


Figure 1. Interactions between alcohol and antibacterial drugs retrieved from the three drug compendia

There was concordance among Stockley's and Hansten & Horn that **ciprofloxacin has no relevant interaction with alcohol**. The remainder drugs interact with alcohol via pharmacokinetic mechanisms. The severity of the interactions is indicated in Hansten & Horn and Micromedex, as shown in Figure 2.

Avoiding alcohol consumption was the most common advice for interaction management in all compendia.

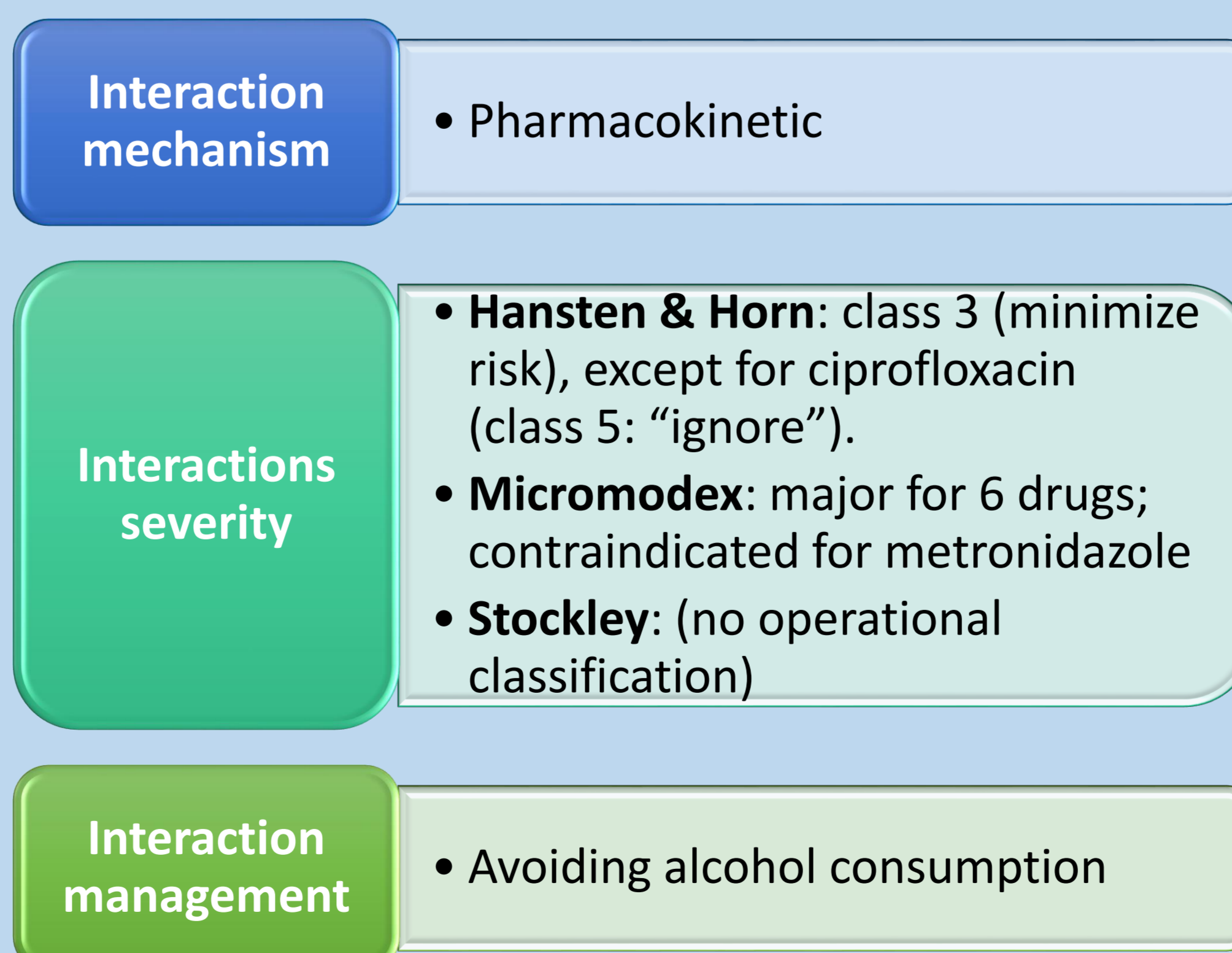


Figure 2. Results obtained for main outcome measures

Conclusions

- There were **discrepancies in the information regarding alcohol-antibacterial interactions** among the three compendia;
- **Interactions with alcohol** seem to occur with only a limited number of antibacterial drugs but documented interactions have generally **clinical relevance**.

Implications for Clinical Pharmacists

- In the absence of evidence on alcohol-antibacterial interactions, it is of doubtful benefit to advise patients on antibacterial therapy to **restrict the moderate consumption of alcohol**. Pharmacists should bear in mind that this may jeopardize adherence, contributing to the burden of antibacterial resistance;
- Pharmacists should be aware of **discrepancies among drug interaction sources of information** and use **more than one source to identify and manage alcohol-antibacterial interactions** in clinical practice.

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