MY TOP 5 TAKES

On a study titled; Cefazolin (CEF) versus anti-staphylococcal penicillins (ASP) for the treatment of patients with *Staphylococcus aureus* bacteremia (SAB): a systematic review and meta-analysis

CEFAZOLIN 'S KRYPTONITE

There is a theoretical risk of failure when cefazolin is used in high burden SAB.

Why? High burden infection may potentiate MSSA resistance via over production of enzymes that breakdown this antibiotic.

ASP MAY BE MORE TOXIC

Incidence of kidney injury reported to be higher with ASP (vs. CEF).

But its limited spectrum (vs. CEF as CEF is also active against *E. coli and Klebsiella*) may reduce one's risk for *C. difficile* infection.

14 STUDIES GOT INCLUDED

A random-effect meta-analyses was performed (none was randomized and 1 was prospective study and others were retro in nature).

Random effect in here means that the analysis allows differences in treatment effects from study to study.

CEF IS AS GOOD/MAY BE BETTER

90-day mortality (4391 subjects): Nil difference
30-day mortality (11760 subjects): Favors CEF
90-day mortality in high burden infection (88 subjects): Nil difference
30-day mortality in high burden infection (925 subjects): Nil difference
Nephrotoxicity (1188 subjects): Favors CEF

CEFAZOLIN IS SAFE IN MSSA BACTEREMIA

Plus, it is more renal friendly.
The caveats is; more patients with IE were treated with ASP and this may be a form of indication bias.

Nonetheless, the juries are still out on the CEF inactivation via inoculum effect. I wonder whether a rich-plasma sampling that characterizes the dose exposure response and PD attainment of both the antibiotics would help answer this debate. Perhaps characters such as vancomycin MIC as well as agr functional status should be considered too as candidate variables in future studies.