

Synercid- Antibiotic to Combat Vancomycin Resistant Organisms

Synercid is the first FDA approved antibacterial drug to be used for the treatment of infections that fail to respond to vancomycin, the “last-resort” antibiotic of the past thirty years.¹ This compound belongs to a new class of antibiotics known as streptogramins- the first new antibiotic class in over a decade.²

It is estimated that there are as many as 20,000 cases of vancomycin-resistant infections annually, up from one case in 1989.¹ Resistant patients include those who are undergoing chemotherapy, transplant recipients, and those with compromised immune systems. These infections can also be a problem for post -surgical patients, the elderly, and children. In hopes of stemming the growing threat of antibiotic-resistant organisms, the FDA approved Synercid September,1999.¹

Synercid is used for treatment of patients with serious or life-threatening infections associated with vancomycin-resistant *Enterococcus faecium* (VREF) bacteremia.³ It is not active against *Enterococcus faecalis*, therefore lab test must be performed to make differentiation of enterococcal species.¹ Synercid is also approved to treat complicated skin and skin structure infections caused by *Staphylococcus aureus* (methicillin susceptible) or *Streptococcus pyogenes*.³

The streptogramin components of Synercid, quinupristin and dalfopristin, are present in a ratio of 30 parts quinupristin to 70 parts dalfopristin.⁴ These two components act synergistically so that Synercid’s microbiologic in vitro activity is greater than that of the components individually. Synercid works by disrupting bacterial protein synthesis through a dual mechanism, with dalfopristin attacking the bacterias ribosome to sabotage an early stage of protein synthesis and with quinupristin attacking the ribosome to disrupt a later protein-synthesis stage, preventing the release of the just-produced protein.²

Synercid is reportedly a strong inhibitor of cytochrome P450 3A4 (e.g., cycosporine, terfenadine, cisapride, midazolam, and nifedipine).³ It is likely to inhibit the metabolism of these drugs when coadministered therefore, caution and close monitoring should take place.

Synercid’s most common adverse reactions are inflammation at the infusion site and pain at the infusion site.³ Episodes of arthralgia, myalgia, and nausea, some severe, have been reported in patients treated with Synercid.³ There are no known nephrotoxic effect with Synercid.³

Hopefully judicious use of Synercid will help maintain its effectiveness, for many years to come.

Bibliography

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