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Anidulafungin
A Viewpoint by William J. Steinbach

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The treatment of oesophageal candidiasis has progressed in recent years to now include fungicidal agents with much less toxicity. While treatment with amphotericin B offered excellent fungicidal anti-*Candida* activity, there were significant patient toxicities with prolonged usage. The triazoles such as fluconazole offered an easier oral alternative with a reduced adverse effect profile, but only fungistatic activity. Anidulafungin is one of three agents in the novel antifungal class of echinocandins which act by inhibiting β-(1,3)-D-glucan synthase and therefore cell wall synthesis. Anidulafungin possess fungicidal activity against *Candida* species, and since there is no β-(1,3)-D-glucan in human cells there is a near absence of adverse side effects in humans.

Laboratory studies have shown that the echinocandins can help combat the increasing *Candida* resistance to triazoles as they possess antifungal activity against fluconazole-resistant *Candida* isolates. *In vitro* and animal studies show anidulafungin has excellent activity against *Candida* species, and human studies show efficacy in oesophageal candidiasis comparable to fluconazole. There is a clear advantage of anidulafungin over amphotericin B deoxycholate due to the minimal side effects with the echinocandin, including the ability to use anidulafungin in patients with profound renal impairment with no change in the pharmacokinetics. However, the side effect differences are in general less obvious with a lipid formulation of amphotericin B. While anidulafungin does have superior anti-*Candida* activity over fluconazole, the disadvantage of anidulafungin is its need for an intravenous preparation in clinical use. This does potentially limit the long-term use of anidulafungin (i.e. months to years in some patients), and may reserve the drug for use as initial therapy in difficult to treat or hospitalised patients. This is difficult as treatment often continues for lengthy periods of time to prevent relapses. Future studies examining anidulafungin infusions on a less frequent basis may create opportunities for less-frequent dose administration while maintaining fungal clearance. ▲