Introduction
Spectinomycin is a product of the bacterium *Streptomyces spectabilis*. It is active against Gram-negative organisms, particularly *Neisseria gonorrhoeae*. The 2004 WHO Model Formulary recommends its use for the treatment of uncomplicated anogenital, and disseminated, gonococcal infections in adults, in gonococcal conjunctivitis in adults and neonates, and in chancroid in adults.\(^1\)

Other drugs currently listed in the Formulary for the same indications include ceftriaxone, cefixime, ciprofloxacin, and ofloxacin.\(^1\)

Product and Dosage
Spectinomycin, as the hydrochloride, is available as a powder for injection as 2g in a vial. The Formulary recommends that adults with uncomplicated *anogenital gonococcal infections* are treated with a single 2g dose by intramuscular injection; the dose may be increased to a single 4g divided between 2 injection sites in patients who have proved difficult to treat or where there is known antibiotic resistance. In *disseminated gonococcal infections*, the adult dosage is 2g every 12 hours by deep intramuscular injection for 7 days. In *neonatal gonococcal conjunctivitis*, treatment is by deep intramuscular injection of a single dose of 25 mg/kg (maximum 75 mg). In patients with renal impairment, spectinomycin should only be used if alternative therapies are inappropriate.

Evidence of value
Spectinomycin has to be given by intra-muscular injection and its use is relatively expensive. It is effective in the treatment of ano-genital but not pharyngeal gonorrhoea. Spectinomycin is usually regarded as a “reserve” agent in the treatment of gonorrhoea, to be used in patients intolerant of cephalosporins or quinolones. It can also be used in pregnant women in standard doses\(^2\) and for disseminated infection if given twice-daily for up to 7 days.

Spectinomycin-resistant gonococci have developed with widespread use,\(^3\) but resistant strains have disappeared when the drug has been stopped.\(^4\)

Currently, third- generation cephalosporins (ceftriaxone, cefixime) are recommended as first-line treatment of gonorrhoea,\(^5\) since these drugs have proved more effective. Quinolone antibiotics (ciprofloxacin, ofloxacin) are widely recommended as standard treatments, although in many regions, these agents have been withdrawn from treatment schedules due to decreased susceptibility of *Neisseria* strains to quinolones.\(^6\)

Recommendation
The current approach to treatment of gonorrhoea is based on a single dose of an antibiotic that should predictably cure at least 95% of patients treated. Such single- dose treatment provides good compliance and minimum costs. Currently, these criteria for the effective antibiotic therapy of gonorrhoea can best be met by the use of third generation cephalosporins or alternatively
spectinomycin where patients are intolerant of a cephalosporin. Due to an accelerating spread of quinolone-resistant gonococci, these widely recommended antibiotics have already been withdrawn from treatment schedules in many parts of the world. Spectinomycin should continue to be listed in the WHO Model List of Essential Medicines, available as a “reserve” antibiotic for the treatment of ano-genital gonorrhoea, disseminated gonococcal infections in adults, gonococcal conjunctivitis in adults and neonates, and chancroid in adults.

Thomas Gerloff, Der Arzneimittelbrief, Berlin, Germany (October 2004)

References

Search Strategy

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