Antibiotic Therapy of Diabetic foot infections

One of the most common complications of diabetes mellitus is diabetic foot infection. This infection may end in lower limb amputation when not treated properly on time.

In the treatment of diabetic foot infection, antibiotics are not necessary unless there are signs of infection in the wound. However, in people with diabetes mellitus and other diseases characterized by reduced tissue perfusion and immune response, classical clinical signs of infection are not always present, so the threshold for suspecting infection and testing a wound should be lower.

Common pathogens

Early infection is usually due to **Staphylococcus aureus and/or streptococci.**

Later infection may be because of polymicrobial with a **mixture of Gram-positive cocci**, **Gram-negative bacilli, and anaerobes.**

Antibiotic treatment in Diabetic foot infections

Patients who present with mild diabetic foot infections can be treated with oral antibiotics that cover skin flora including streptococci and Staphylococcus aureus.

Drugs such as amoxicillin-clavulanate, cephalexin, dicloxacillin, or clindamycin are the most effective choices.

The first choice in many instances is **Amoxicillin-clavulanate** (Amoxicillin plus clavulanic acid). An adult dose is usually 500+125 mg, three times daily, for five to seven days.

Alternatives include **Cephalexin** 500 mg, four times daily, + **metronidazole** 400 mg, twice to three times daily, for five to seven days OR (for patients with penicillin hypersensitivity)

Co-trimoxazole (septrin) 160+800 mg (two tablets), twice daily, + **clindamycin*** 300 mg, three times daily, for five to seven days are used if methicillin-resistant S aureus infection is suspected.

For MRSA you can also use minocycline or linezolid.

A dual therapy of amoxiclav and co-trimoxazole is used to cover gram-negative aerobes and/or anaerobes. A combination of clindamycin and a fluoroquinolone like levofloxacin or moxifloxacin may also be used.

If the patient presents with more severe infections then hospitalization is required so as to introduce parenteral antibiotic therapy.

To cover streptococci species, Methicillin-Resistant Staphylococcus Aureus, aerobic gram-negative bacilli, and anaerobes use empiric therapy of vancomycin, linezolid, or daptomycin.

Diabetic foot infection caused by gram-negative aerobic organisms and anaerobes can be managed by ampicillin-sulbactam, piperacillin-tazobactam or meropenem.

An alternative of cephalosporin, ceftriaxone or cefepime, levofloxacin, moxifloxacin, or aztreonam plus metronidazole is enough to cover both aerobic gram-negative and anaerobic microorganisms.