Structure Activity Relationship of Cefdinir

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In general, cephalosporin antibiotics of the so-called third generation (3-vinyl cephalosporins with various 7-acyl side chains) possess very potent activity against Enterobacteriaceae, but weak or moderate activity against Staphylococcus aureus. Furthermore, the activity of such a drug against methicillin-resistant S. aureus (MRSA) is very low.

Some cephalosporins with enhanced activity against S. aureus have been recently developed or introduced into therapy.

The goal of our research effort was the synthesis of an injectable cephalosporin having excellent activity against S. aureus including MRSA, as well as Gram-negative bacteria.

A recent report from our laboratories has described the structure-activity relationships of 7-[2-(2-amino-4-thiazolyl)-2-hydroxyiminoacetyl] cephalosporins with small substituents relating to cefdinir, a new orally active cephalosporin.

Most of the hydroxyimino compounds exhibited highly potent activity against methicillin-sensitive S. aureus (MSSA). However, the activity of these compounds against MRSA was not as high as that of cefdinir.¹

As a result, it was found that the vinyl compound, Cefdinir, showed excellent antibacterial activity and good oral absorption. In vitro and in vivo antibacterial activities, the affinity for Penicillin Binding Proteins and the stability to beta-lactamases revealed that Cefdinir had well balanced antimicrobial activities against Gram-positive and Gram-negative bacteria and good biological properties.²

References
OMNI
300 mg

Broad spectrum cephalosporin antibiotic
Each Capsule Contains: 300 mg of Cefdinir
OMNI (Cefdinir)
Powder For Oral Suspension
250 mg / 5 mL

Composition:
Each 5 mL of prepared suspension contains:
Cefdinir 250 mg.
Cefdinir is a broad-spectrum cephalosporin antibiotic.

Indications and dosage:
See enclosed leaflet.

Contraindications:
In patients with allergy to cephalosporins.

To be dispensed only by physician's prescription.

Shake well before each use.

Store the unsuspended powder at 25°C; excursions permitted to (15 °C - 30 °C).
Once reconstituted, the oral suspension can be stored at controlled room temperature (20°C) for 10 days.
Keep out of the reach of children.

Manufacturer:
Diamond Pharma
Damascus suburb - Syria.
OMNI
(Cefdinir)
Powder For Oral Suspension
125 mg / 5 mL

40 mL