

MEDICAL THERAPIES AND PHARMACOLOGY

## LYMECYCLINE IN DERMATOLOGY AND VENEREOLGY

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### LYMECYCLINE

( 2nd Generation Tetracycline )

#### CLASSIFICATION:

Group 1 : tetracycline, oxytetracycline, chlortetracycline, demeclocycline, lymecycline, methacycline and rolitetracycline

Group 2 : doxycycline and minocycline

Group 3 : Aminomethylcyclines; glycylcyclines-tigecycline

#### PHARMACOKINETICS:

Lysinomethyl-tetracycline

Plasma t<sub>1/2</sub>: 8 (7-14) hrs

Time to peak concentration (t<sub>max</sub>): 3 hrs (after 300mg PO)

Peak concentration (C<sub>max</sub>): 2.1 mg/L (after 300mg PO)

Around 30% of active drug excreted unchanged in urine

Water soluble prodrug of tetracycline (Better oral absorption)

It is approximately 5000 times more soluble than tetracycline base and is unique amongst tetracyclines in that it is absorbed by the "active transport" .

#### PHARMACODYNAMICS:

Lymecycline is a tetracycline broad-spectrum antibiotic

Antibacterial and anti-inflammatory effects

It inhibits ribosomal protein synthesis by preventing the association of aminoacyl-tRNA .

Bacteriostatic (Reversible association with ribosome)

Spectrum of action: Gram-positive and negative bacteria, chlamydiae, mycoplasmas, rickettsiae, spirochaetes, protozoan parasites , Trichomonas vaginalis, Toxoplasma gondii)

Inhibition of PMN and eosinophil chemotaxis

Inhibition of matrix metalloproteinases

Inhibition of Propionibacterium acnes

Inhibition of pro-inflammatory cytokines: TNF $\alpha$ , IL-1, IL-6

#### DERMATOLOGICAL INDICATIONS:



Acne  
Rosacea  
Perioral dermatitis  
Chlamydia trachomatis infection  
Hidradenitis Suppurativ  
Progressive macular hypomelanosis  
Frontal fibrosing alopecia  
Pyoderma gangrenosum

**DOSAGE & ADMINISTRATION:**

Adults: The usual dosage for the chronic treatment of acne is Lymecycline 408mg once/twice daily: for at least 8 weeks.

Children:

Not recommended for children under the age of 12 years.

Pregnancy: Category D (FDA)

Embryotoxicity and teratogenicity, toxic effects on skeletal formation.

Breastfeeding:

Excreted into human milk in small amounts.

**CONTRAINDICATIONS:**

Hypersensitivity to tetracyclines.

Pregnancy or lactation in women breast feeding infants.

Advanced renal/hepatic insufficiency.

Children under the age of 8y

Concurrent treatment with oral retinoids

**WARNINGS AND PRECAUTIONS:** Cross-resistance between tetracyclines may develop in micro-organisms, and cross sensitisation in patients.

Tetracyclines should only be used with caution in patients with hepatic dysfunction, lest accumulation occurs with increased toxicity.

