

Allicin as a potent antibiotic against dermal infections

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Allicin is an sulphur-containing compound found primarily in garlic, *Allium sativum*. In fact, it is not found in the entire garlic clove, *albeit*, when the garlic is crushed or chopped, the cells break down and the effective compound, alliin, comes in contact with alliinase (an enzyme present in the clove). Alliinase changes the alliin into allicin.

Allicin is commonly known for its anti-diarrheal, anti-fungal, anti-choleretic and anti-cancerous activity in traditional system of Indian medicine. In the present study, Allicin was administered *in vitro* for antibacterial activity against four Gram positive strains - *Staphylococcus saprophyticus*, *Staphylococcus epidermis*, *Staphylococcus aureus* & *Streptococcus pyogenes* and four Gram negative strains - *Proteus mirabilis*, *Proteus vulgaris*, *Klebsiella pneumonia* & *Neisseria meningitis*. These bacterial strains cause skin disease in humans. The extracts showed significant antibacterial activities against both the (Gram-positive and Gram-negative) bacterial strains at 100, 200, and 300 µg/disc concentrations using Disc Diffusion Method. tested. Highest antibacterial activity was evident against *Staphylococcus saprophyticus* (at 300 µg/disc : 24.00 ± 0.00 mm) and the least activity was noticed against *Klebsiella pneumoniae* (at 300 µg/disc : 6.00 ± 0.00mm). The minimum inhibitory concentration (MIC) ranged between 100 µg /mL and 200 µg /mL depending on microorganism.

The results suggest allicin as an antibacterial substance for the treatment of skin infections caused by pathogenic bacterial strains.

Keywords: Allicin, Antimicrobial activity, Skin infections, MIC.

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