

Comparative effect of extracts of *Annona squamosa* (custard apple) and *Punica granatum* (pomegranate) on microorganisms causing sore throat and skin lesions.

SUMMARY OF FINDINGS

In the present investigation the antibacterial effect of both pure and methanolic extracts of *Annona squamosa* and *Punica granatum* on microorganisms like *Proteus*, *Staphylococcus*, *Klebsiella*, *E. coli*, *Streptococcus* and *Pseudomonas* was studied. The extracts of skin, pith, stem, seed and leaf were used.

The pure extract of *Annona squamosa* showed a zone of inhibition of 16 mm for *Staphylococcus* which is almost equivalent to the zones of inhibition shown by the antibiotics. When the sample was diluted to 1g in 5ml, no significant zone of inhibition was seen.

The pure extracts of *Punica granatum* when used, a zone of inhibition of 6 mm was seen for extracts of skin, 7 mm for pith and 4 mm for stem for *Proteus*. The methanol extracts of *Punica granatum* showed a zone of inhibition of 4 mm for skin, 4 mm for pith and 5 mm for stem for *Proteus*. The diluted extracts also showed zone of inhibition for *Proteus*. *Proteus* did not show any zone of inhibition for the control antibiotics Cephalexin and Ampicillin but showed a zone of inhibition of 6 mm for Azithromycin.

Punica granatum is a source of several alkaloids and steroids whose medicinal properties are well established. The pith is an important source of punicalagin, an effective antioxidant compound with free radical scavenging activity. An increase in dietary intake of pomegranate may prove to have a long term benefits in preventing cancer. But its therapeutic efficacy in bacterial infections, as our study shows is promising in case of infections by *Proteus*, like skin infections and urinary tract infections. Another significant finding is the antibacterial potential of the pure extract of *Annona squamosa* on *Staphylococcus aureus* which has emerged today in antibiotic resistant pathogenic forms. Its antibacterial effect appears to be comparable to that produced by the control antibiotic ampicillin.

PRINCIPAL INVESTIGATOR:

Mrs Sabrina Jathanha, Associate Professor, Department of Zoology and Genetics

CO-INVESTIGATOR: Dr. Sajna Abraham, Lecturer, Department of Genetics