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EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF *Alocasia plumbea*

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With the emergence of multidrug resistant microorganisms the world is in need of finding new drugs. There is no published data on the antimicrobial effect of *Alocasia plumbea* though this plant has been used traditionally in Ayurveda medicine for treatment of tonsillitis, acne, snake bites, cysts and skin eruptions. Therefore the current study tested *Alocasia. plumbea* to find any chemical entity with antimicrobial effect.

Shade dried and powdered tuber and aerial parts of *A. plumbea* were separately used for the extraction using a solvent series of hexane, chloroform, methanol and water respectively. Each extract was subjected to preliminary toxicity test using Brine shrimp. It was observed that other than the water extract of the aerial and chloroform extract of the tuber, all the other extracts did not show toxic activity. The antimicrobial activity of the extracts were tested using both the cut well method and agar dilution method at 20mg/ml concentration. Even though in the cut well method antimicrobial activity was not seen, in the agar dilution method good antimicrobial activity was noted. The methanol extract of the aerial part inhibited growth of *Staphylococcus aureus, Pseudomonas aerugenosa* and *Escherichia coli*. The methanol extract of the tuber part and water extract of the aerial part inhibited *S. aureus* and *P. aerugenosa.* Hexane extract of aerial and tuber inhibited only *S. aureus.* Chloroform extract of aerial part inhibited *Candida dubliniensis* and *Candida rugosa.* Antimicrobial activity with the absence of cytotoxic activity is a significant finding with reference to *Alocasia. plumbea* extracts.

Therefore, the methanol and hexane extracts of *Alocasia plumbea* could be used for the investigation of new antimicrobial agents. This plant is an abundant easy growing plant and the yield of methanol extract is comparatively high, which is an advantage. As a solvent series was used to extract, the active compounds inhibiting the growth of the microorganisms in methanol may differ from the active compounds in other solvents with different polarities. This gives direction for further studies to find new chemical entities with minimum toxicity to fulfill the current need for antibiotics.