Evaluation of phytochemical and antibacterial activity of the crude extracts of Senna auriculata (L)

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Abstract: The present work has been shown phytochemical presence and antibacterial (human pathogens) activity of the medicinal plant of Senna auriculata (L). S. auriculata plant crude extracts were obtained using Ethanol, Acetone, Benzene, Ethyl acetate and Diethyl ether. Among five solvents used Diethylether followed by Ethanol, is the most favorable solvent to obtain more amount of plant extract. The crude extract was tested for antibacterial activity against various human pathogens such as Escherichia coli, Salmonella typhi, Bacillus cereus, Klebsielle pneumonia, Staphylococcus epidermidis, Serratia marcescens, Staphylococcus aureus, Streptococcus agalactiae, Streptococcus dysgalactiae and Streptococcus pyogenes. The antibacterial activities were tested on Muller- Hinton agar with and without 5% sheep blood by the well diffusion method. The maximum antibacterial activity was observed in Diethyl ether extract followed by the Ethyl acetate extract. On the whole, Streptococcus species (S. dysgalactiae, S. pyogenes, followed by S. agalactiae) were highly inhibited by Diethyl ether extract than other human pathogens tested. We found eight phytochemical in S. auriculata extract such as tannin, alkaloids, flavanoids, glycosides and phenols were detected. Petroleum ether, Ethyl acetate (4:1 ratio), was appropriate for TLC analysis and we found 6 major spots by TLC method. Our next approach is to purify and identify the active compound for pharmacological applications.

Keyword: antibacterial activity, crude extracts, phytochemical, Senna auriculata, TLC analysis