In vitro antimicrobial efficacy of Cnidoscolus aconitifolius leaf extract & honey on Staphylococcus epidermidis clinical isolate

Hanson Ige Ogbu, Emeka Claudia Igboanusi, Nkechi Obiofu Ezenobi

Department of Pharmaceutical Microbiology & Biotechnology, Faculty of Pharmaceutical Sciences, University of Port Harcourt, University Park, Port Harcourt, Nigeria

INTRODUCTION

- There’s an increased tempo in medicinal research with the hope of discovering bioactive compounds for treating drug resistant microorganisms
- Cnidoscolus aconitifolius is an indigenous tropical tree also known as Tree spinach [3],
- Gained lot of importance in its nutritional value and traditional use [2].

AIM

- The in vitro antimicrobial activities of Cnidoscolus aconitifolius leaf extract, honey, extract/honey combination in order to provide a pharmacological basis for their ethnomedicinal applications against S. epidermidis clinical isolate.

RESULTS AND DISCUSSION

Phytochemical analysis

Table 1: Results of Phytochemical analysis

<table>
<thead>
<tr>
<th>Phytochemical Constituents</th>
<th>Aqueous Extract</th>
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<tbody>
<tr>
<td>Flavonoids</td>
<td>++</td>
</tr>
<tr>
<td>Tannins</td>
<td>+</td>
</tr>
<tr>
<td>Alkaloids</td>
<td>+</td>
</tr>
<tr>
<td>Anthraquinone</td>
<td>-</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>++</td>
</tr>
<tr>
<td>Steroids</td>
<td>+</td>
</tr>
<tr>
<td>Carotenoids</td>
<td>+</td>
</tr>
<tr>
<td>Saponins</td>
<td>+</td>
</tr>
</tbody>
</table>

The bioactive compounds shown in Table 1 are known to possess various pharmacological effects and may be responsible for the observed antimicrobial effect against the test isolate [3]. Earlier studies show that flavonoids have the ability to form complexes with extracellular and soluble proteins and bacterial cell walls, while tannins can bind to proline rich protein that interferes with protein synthesis [3].

CONCLUSIONS

- The finding suggests that C. aconitifolius might be a good source of compounds that can be used to inhibit the growth of Staphylococcus epidermidis pathogen.
- The study further supports the traditional applications of C. aconitifolius as a natural alternative therapeutic agent avoiding health hazards of chemical antimicrobial agent applications.
- Further research needed to exploit the full potential of C. aconitifolius tree in order to influence their extensive consumption, storage, improvement and production.

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REFERENCES

1. https://www.healthbenefitsetimes.com/shoye/