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PHYTOCHEMICAL ANALYSIS AND ANTIOXIDANT ACTIVITY OF AMUKKARA THAILAM

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ABSTRACT

Traditional medicine has been used for thousands of years to treat and prevent diseases plays an integral role in primary health care. The scientific analysis of Amukkara Thailam formulated from the polyherbs showed the presence of alkaloid, steroid, phenol, tannin, amino acid and antioxidant potential of 59.96 ± 0.011µg/ml to 81.41 ± 0.011 µg/ml showed the effect of medicine.

Index Terms: Amukkara Thailam, Phytochemical, Antioxidant.

INTRODUCTION

Wound is an injury where the blunt force of trauma causes contusion which damages the dermis of the skin. The efficacy of traditional medicines depends on the use of plant part and its biological potency depends upon the presence of required quantity and nature of secondary metabolites (Vinoth *et al.*, 2011). During metabolism plants synthesize a dazzling array of additional components as a part of defense mechanism (Savithramma *et al.*, 2011). The chemical compound that inhibits the oxidation of other molecules is antioxidant they help to increase immune function (Sies and Helmut, 1997).

MATERIALS AND METHODS

Amukkara Thailam is the internal form of medicine prescribed to cure wound. The ingredients used for the preparation of Thailam are Kombarakku, Karumseeragum, Athimathuram, Neermulli, Amukkara, Jathikkai, Kadukkai (1 Kalanchi), Campanki (2 Kalanchi); Maramanjal (25g), Venthamarai Poo (500 g) and Sesame Oil (1 litre).

PHYTOCHEMICAL ANALYSIS

The identification of steroid, alkaloid, sugar, phenol, flavonoid, saponin, tannin, anthroquinone and amino acid was carried out using the standard procedure (Brindha *et al*., 1981).

HYDROXYL RADICAL SCAVENGING ACTIVITY

Hydroxyl radical scavenging assay was carried out in triplicates as per the standard procedure (Halliwell *et al*., 1987). The decrease in optical density in addition of test samples in relation to the control was used to calculate the antioxidant activity, as percentage inhibition (%) of hydroxyl radical. The capability of scavenging hydroxyl radical was calculated using the following equation

$$\text{Percentage inhibition} = \frac{(\text{Absorbance of control} - \text{Absorbance of test})}{\text{Absorbance of control}} \times 100$$

STATISTICAL ANALYSIS

Statistical analysis of the data obtained for the different variables were carried out using SPSS software package. The standard deviation was taken into account their standard and observed values were compared to reveal the antioxidant potential.

RESULTS & DISCUSSION

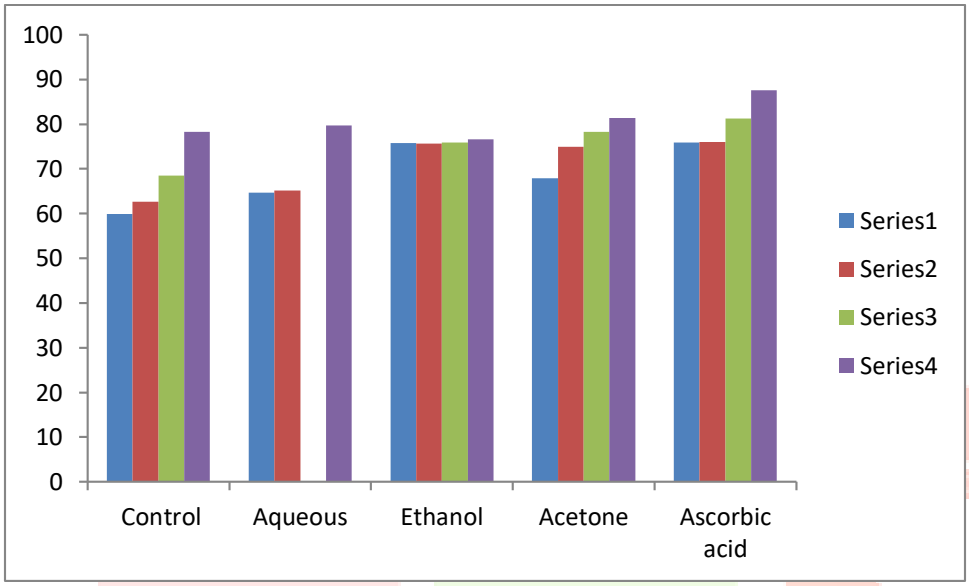
The phytochemical analysis of control showed the presence of alkaloid, steroid, phenol, tannin, amino acid and absence of flavonoid, saponin, sugar and anthroquinone, the aqueous extract showed the presence of phenol, flavonoid, tannin, amino acid and absence of alkaloid, steroid, sugar, saponin and anthroquinone. The previous studies revealed the presence of alkaloid, saponin, tannin and anthroquinone in acetone extract and absence of flavonoid, steroid, sugar, phenol and amino acid. Suja and Williams, (2017) reported the phytochemical analysis of Karumsurathi Thailam (oil) showed the presence of alkaloid, flavonoid, saponin, terpenoid and steroid, aqueous extract showed the presence of alkaloid, flavonoid and saponin and ethanol extract showed the presence of alkaloid, saponin and steroid constituents.

The origin of disease of multifactorial nature is mainly due to the imbalance between pro-oxidant and antioxidant homeostatic phenomenon in the body. Hydroxyl radical scavenging is an extremely reactive free radical formed in biological system is capable of damaging almost every molecule found in living system causing lipid per oxidation and biological damage. The present study showed

maximum activity of 81.41±0.011 in acetone extract and standard L- Ascorbic acid of 87.62±0.029. Suja and Williams, (2015) reported the hydroxyl radical scavenging of Veppampattai Thailam varied from 52.39% (25µl) to 83.68% (100µl), aqueous extract varied from 48.57% (25µl) to 69.36% (100µl), ethanol extract varied from 52.53% (25µl) to 71.32% (100µl), chloroform extract varied from 58.57% (25µl) to 72.36% (100µl) and the standard antioxidant ascorbic acid varied from 59.26% (25µl) to 84.21% (100µl) showed the effect of medicine.

Fig: 1 Hydroxyl Radical Scavenging Activity of Amukkara Thailam

Activity Expressed as %± SE



CONCLUSION

The scientific assessment of medicine showed the traditional usage and its effects makes the society to believe the treatment of wound is possible without any side effects.

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