



ORIGINAL RESEARCH PAPER

Clinical Research

ANTI-OXIDANT ACTIVITY OF TRADITIONAL SIDDHA MEDICINE SANGU PARPAM BY ABTS ASSAY

KEY WORDS: Anti-oxidant drug, Anti-cancer drug, sangu parpam, herbo marine drug, Nano medicine, Siddha formulation

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ABSTRACT

Siddha system is one of the primordial system of the world. Siddha medical system has a precise one design by great siddhars. Sangu parpam was used in Siddha system of medicine for many years to treat "vitamin C" deficiency and bone disorder. This medicine contains sangu (*Turbinella pyrum*) and the juice of *pirandai* (*Cissus quadrangularis*). These drugs are helps to improve the absorption of blood to correct the anemia. This study was carried out to evaluate the anti-oxidant effect on sangu parpam and to determine the IC50 through ABTS assay. The IC50 value of the drug Sangu parpam is – 411.434µg/ml.

INTRODUCTION

Kaayakarpam is one of the distinctive special therapeutic divisions in Siddha system of medicine supported specially for rejuvenation, decreasing ailment and increasing the life span. "Kaayam" means body and "Karpam" means 'strong as stone'. Hence it means keeping the body as strong as stone. Thus this dicipline details the methods and drugs used for longevity and improvement of intrinsic health. Kaayakarpam delivers both mental and physical wellness to the individual. Kaayakarpam is compared to with anti-oxidant activity because both are reduced the free radicals. In Siddha Texts Kaayakarpam is responsible for immortality of the human body. Siddha medicine sangu parpam is one of the best kaayakarpam and it reduced the free redicals in our body and it has good anti-oxidant property.

Materials and methods:

Details regarding the sample

The sample having both Ingredients Sangu (*Turbinella pyrum*) and Juice of Pirandai (*Cissus quadrangularis*). The drug was prepared as per the siddha literature agasthiyar aruliya anupoga vaidhya kalanjium

METHODS OF PREPARATION

The Sangu (*Turbinella pyrum*) were purified and then grinded with the juice of *Pirandai* (*Cissus quadrangularis*). Then it has to be made into 10 pellets. And those pellets are kept into mud sealed earthen saucer. Then it will be subjected into *Putam* process. Repeat this process upto 7 times. Finally, the obtained material has to be powdered.

Details regarding the ABTS assay

The preformed radical monocation of 2, 2'azinobis 3 ethyl benzothiazoline 6- sulfonic acid is generated by oxidation of ABTS with potassium persulfate (a blue chromogen) and is reduced in sthe presence of hydrogen donating antioxidants. Ascorbic acid (10mg/mL) was used as standard.

Solution I: ABTS, 20mM solution is prepared using H2O

Solution II: Potassium persulfate, 17Mm solution is prepared using H2O

0.3ml of Solution II was added to 50ml of solution I. The reaction mixture was left to stand at room temperature overnight in dark before use. 1ml of distilled water was added to 0.2mL of different concentrations of the sample such as 125-2000µg/mL from a stock concentration of 10mg/mL. 0.16ml of ABTS solution was added and made up to the final volume 1.36ml. A control without the test compound, but an equivalent amount of distilled water was taken. Absorbance was measured after 20 minutes at 734nm.

$$\text{Percentage of inhibition} = \frac{\text{Control} - \text{Test}}{\text{Control}} \times 100$$

RESULTS

Concentration(µg/ mL)	Absorbance	Percentage of inhibition
Control	0.1036	
Standard: Ascorbic Acid		
125	0.0963	7.04
250	0.0808	22.00
500	0.0590	43.05
1000	0.0372	64.09
2000	0.0171	83.49

Concentration(µg/ mL)	Absorbance	Percentage of inhibition
Control	0.0834	0
Sample code: Sample		
125	0.0725	13.07
250	0.0590	29.26
500	0.0322	61.39
1000	0.0215	74.22
2000	0.0189	77.34

IC50 Value- Ascorbic acid- 933.947µg/mL (Calculated using ED50 PLUS V1.0 Software)

Sangu parpam – 411.434µg/mL (Calculated using ED50 PLUS V1.0 Software)

DISCUSSION:

The standard drug ascorbic acid is compared to with trial drug sangu parpam. The concentration of sangu parpam were 125,250,500,1000,2000 µg/mL and the percentage of inhibition of sangu parpam was 13.07, 29.26, 61.39, 74.22, 77.34. Sangu parpam is more potent than ascorbic acid. The IC50 value of Ascorbic acid is 933.947µg/mL but the IC50 value of siddha medicine sangu parpam is 411.434µg/mL

CONCLUSION:

This study results concludes that the antioxidant property of sangu parpam was validated. The IC50 value of the drug Sangu parpam is – 411.434µg/ml. From the result of the present study it was concluded that the test drug sangu parpam possess considerable anti-oxidant activity.

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