International Standard Serial Number (ISSN): 2249-6807

International Journal of Institutional Pharmacy and Life Sciences 4(2): March-April 2014

INTERNATIONAL JOURNAL OF INSTITUTIONAL PHARMACY AND LIFE SCIENCES

Pharmaceutical Sciences **Research Article……!!!**

Received: 27-11-2012; Revised; Accepted: 22-04-2014

STUDY OF ANTHELMINTIC ACTIVITY ON *BUTEA MONOSPERMA* PLANT

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Keywords:

Butea monosperma, Anthelmintic, *Pheretima posthuma*

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ABSTRACT

The plant *Butea monosperma* is a medium sized deciduous tree Belongs to family "Fabaceae" is called as "Dhak & Palas" in Hindi. This plant is used as Anti-inflammatory agent, Healing Power and Curative Properties, Diarrhoea and Dysentery, Skin Disorders, Diabetes, Leucorrhoea, Sore Throat Retention of Urine and Used as dye. In present study methanolic extract of plant is used for its anthelimintic property. The Anthelimintic activity was evaluated on adult Indian Earth worms (*pheretima posthuma*). Albendazole suspension was used as standard and antheliminitc potenitial of plant extract was evaluavated at three different concentrations. And found that methanolic extract of plant *Butea monosperma* contain significant and dose dependent antheliminitc activity.

INTRODUCTION

Drugs obtained from plants don't show any side effects. So that herbal drugs are wildly used in large proportion in world. Most of the plants which have traditional herbal properties are cultivated domestic and commercially. These plants also contain various medicinal principles and shows important pharmacological activites. The plant *Butea monosperma* Belongs to family "Fabaceae" is a traditional plant of chattisgarh and called as "Dhak & Palas" in Hindi and Chhattishgarhi and " flame of the forest, Bastard teak" in English. Different parts of palas plant is used to treat various diseases like Leaf in delirium inflammation skin diseases and vermifuge. Seed used in ascaris, contraceptive, vermifuge and abortifacient. Root is used in tuberculosis and dog bite. Bark is used in dysentery, bone fracture, diarrhea. Gum used in diarrhoea, dysentery, haemostatic, wounds, as tonic, urinary complaints, as diuretic, as astringent and diarrhea. Flower used in dysentery, as aphrodisiac, as astringent, diuretic, stomachache, eye complaints, diarrhoea, piles, in dog bite, antifertility and diabetes. This are traditional as well as medicinally uses of *Butea monosperma.* The Flame of the Forest*, Butea monosperma*, is a tree of tropical and subtropical climate. Found throughout the drier parts of India, often gregarious in forests, open grasslands and wastelands is found all over India and Burma up to1000 m. It is also common in dry deciduous forests in Central India. It is also found in some of the sandy area in Gujarat and Saurashtra. *Butea monosperma* contains glucose, glycine, a glycoside (aglycon), Fatty acids,Triterpene, several flavonoids butein, butin monospermoside, glucose, fructose, histidine, aspartic acid, alanine and phenylalanine,Tannins, polypeptidase, A nitrogenous acidic compound, along with palasonin, somonospermoside. Allophanic acid, several flavonoids (15) Butin (37) , α-Amyrin, β-sitosterol, β-sitosterol-β-D-glucoside, sucrose (16), such as myristic, palmitic, stearic, arachidic, behenic, lignoceric, oleic, linoleic and linolenic (16) Monospermin(18) and an aromatic hydroxy compound. Helminth infections are among the commonest infections in man, affecting a large proportion of the world's population. So in present study anthelmintic potential of *Butea monosperma* is studied.

MATERIALS AND METHODS

The Anthelmintic activity was performed on *Pheritima posthuma* (Indian earthworm) as it has anatomical and physiological resembalance with the intestinal parasites of human beings.

EXPERIMENTAL METHOD

1. **Preparation of extract for test-**

The methanolic extract of leaves of *Butea monosperma* were prepared by using soxhlet apparatus, concentrated and vaccum dried. The various concentrations viz 15mg/ml, 30mg/ml, 50mg/ml were suspended in 2% acacia in normal saline solution as a vehicle and used for anthelmintic evaluation.

2. **Preparation of standard drug solution-**

For the present study Albendazole taken as standard drug. An Albendazole suspension was used. The selected Albendazole suspension was a marketed formulation i.e.‘ Lupibend ’Lupin Pharmaceutical Pvt.ltd.

3. **Anthelmintic activity-**

Six groups of each concentration of 15mg/ml, 30mg/ml, 50mg/ml concentrations of BMME and 10mg/ml concentration of standard Albendazole suspension were prepared and poured in to watch glasses at room temperature. Six groups of earth worms of approximately same size were released into 2ml of desired formulation in each six groups of the same concentration. The same procedure were repeated for each set of concentration. One worm were placed in each watch glass.

The worms were kept in observation and paralysis & dead time was recorded. Paralysis was said to occur when the worms did not receive even in normal saline and death was concluded when worm lost their motility followed with fading away of their body colour and should be confirmed by putting motionless worms in 40 degree Celsius warm water.

The average paralysis and death time of earthworms against different concentrations is shown in table-

Table 1:- Anthelmintic activity of *Butea monosperma* methanolic extract-

Treatment	Concentration (in mg/ml)	Time for paralysis (in min.)	Time for death of worms (in min.)
Control (normal saline water)	-	-	-
Butea monosperma methanolic extract (BMME)	50	08:57	23:05
	30	14:27	35:20
	15	23:28	38:17
Albendazole (standard)	10	09:10	16:29

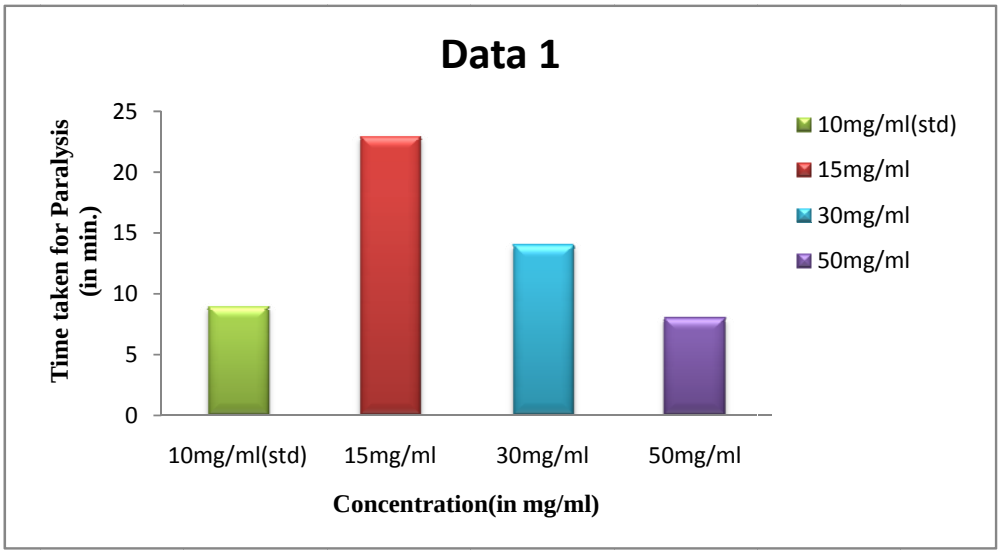

Fig 1 :- Anthelmintic activity of *B.monosperma* methanolic extract of 15mg/ml, 30mg/ml, 50mg/ml compared to standard 10mg/ml.

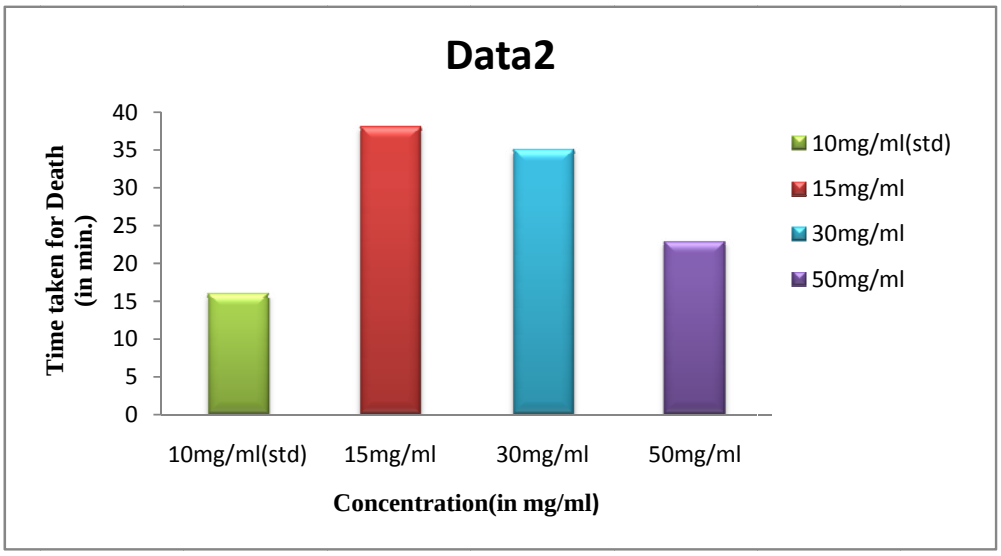

Fig 2 :- Anthelmintic activity of *B.monosperma* methanolic extract of 15mg/ml, 30mg/ml, 50mg/ml compared to standard 10mg/ml.

Result:- The data reveals that the methanolic extract at the concentration of 15mg/ml, 30mg/ml, 50mg/ml showed both paralysis & death time in 23:28, 14:27, 08:57 min. & 38:17, 35:20, 23:05 min. respectively. The effect increased with concentration. The extract caused paralysis followed by death of the worms at all tested dose levels. The above finding justify that the anthelmintic properties of this plant, further study regarding isolation & characterization of the active principles responsible for anthelmintic activity currently under progress.

RESULT AND DISCUSSION

The perusal of the data reveals that the methanolic extract at the concentration of 15 mg, 300 mg ,50 mg/ml showed both paralysis and death time in 23:28, 14:27, 08:57 & 38:17, 35:20, 23:05 Min. respectively. The effect increased with concentration. The extract caused paralysis followed by death of the worms at all tested dose levels. The above findings justify the anthelmintic properties of this plant.

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