Preliminary Antinociceptive Studies of Methanol Extract of *Euphorbia milli*

Abdur Rauf, Naveed Muhammad, Muhammad Qaisar, Ghias Uddin and Iftikhar Hussain

**Abstract:** The crude methanolic extract of aerial parts of *Euphorbia milli* was tested for its antinociceptive property. The antinociceptive effect was evaluated using chemical (acetic acid) induced pain paradigm. The acetic acid induced writhing was significantly attenuated by the crude methanolic extract. The mean number of writhing reduction of the crude methanolic extract was 12.34, 32.54 and 71.44% at the tested doses of 50, 100 and 150 mg/kg respectively. The percent effect of diclofenac sodium was 82.34% was nearest to our tested sample. The crude methanolic extract demonstrated a dose and time dependent effect.

**Key words:** *Euphorbia milli* antinociceptive • Acetic acid and diclofenac sodium

**INTRODUCTION**

The genus *Euphorbia* is the largest genus of medicinal plants widely distributed in most part of the China and Pakistan. Different species of Euphorbia are used as a folk medicine for the treatment of various ailments such as skin diseases, intestinal parasites and warts cures. It has been reported that Euphorbia possesses antiarthritic, anticancer [1-3], anticonvulsant, anti-diabetic, anti-eczema, anti-eczema, anti-inflammatory, antimicrobial, antioxidant, antispasmodic, antitumor, antitussive properties, hormonal and myelo-poiesis properties [4-6]. *Euphorbia milli* crude latex showed potent plant molluscicide [7], its toxic effect to mammals has been studied. The undiluted latex of *E. milli* was also found to be irritant to mammalian eyes and skin [8]. Phytochemical studies of *E. milli* revealed the presence of β-sitosterol, cycloartenol, β-amyrin acetate, lupeol, euphol, triterpenes and flavonoids (name which terpenes and flavonoids) [9, 10] Some of the latter diterpene esters of ingenol are potent skin irritants but, in contrast with other closely-related ingenol and phorbol derivatives, they showed no tumor promoting activity[11], Milliamines isolated from *E. millii* latex exhibited potent molluscicidal activity [12]. The current work demonstrated the analgesic properties of aerial parts of *E. milli*.

**Experimental**

**Plant Material:** *E. milli* aerial parts were collected from Toormang, Razagram area of district Dir, Khyber Pukhtun Khawa province, Pakistan in the month of February, 2010. The plant material was identified by Dr. Abdur Rashid plant taxonomist Department of Botany, University of Peshawar. A voucher specimen (UOP-545) was deposited in the herbarium of the said department.

**MATERIALS AND METHODS**

The plants materials of *E. millii* were shade dried at room temperature for 15 days. The shade dried plants material (aerial parts) was crushed to make fine powder. The powdered materials were soaked in methanol for 5 days and then subjected to repeated extraction until exhaustion of plant materials. The extracts obtained were then concentrated under reduced pressure using rotary evaporator at temperature below 50°C. Crude MeOH extract was obtained as discussed earilerly [13-19].

**Animals:** BALB/c mice of either sex weighing 18-25 g were used as experimental animals. The animals were bred in the animal house, PCSIR of Peshawar. The animals were maintained in clean and hygienic conditions with optimum room temperature. Clean and properly dried food was
given to the animals and water *ad libetum*. Animals were divided into different groups comprising of six mice in each.

**Analgesic Activity:** Animals were divided in various groups. The group I was injected with normal saline (10 ml/kg, i.p.), group II was injected with diclofenac sodium (10 mg/kg, i.p.) and rest of groups were treated with crude methanolic extract (50, 100 and 150 mg/kg). After 30 min of the above treatment animals were injected 1% acetic acid (10 ml/kg, i.p) and then the number of abdominal writing were counted after 10 min of acetic acid administration [20].

**RESULTS AND DISCUSSION**

The crude methanolic extract of aerial parts exhibited dose dependent analgesic properties. Regarding the acetic acid induced writhing test the crude methanolic extract significantly attenuated the induced writhing. The mean number of writhing reduction of the crude methanolic extract was 12.34, 32.54 and 71.44 % at the tested doses of 50, 100 and 150 mg/kg respectively. The percent effect of diclofenac sodium was 82.34% was nearest to our tested sample. The crude methanolic extract demonstrated a dose and time dependent effect.

**CONCLUSION**

The current research work strongly support the use of *E. milli* in the management of various painful conditions. The medicinal properties of our tested extract are directly attributed to the presence various phytoconstituents in crude extract. Our current investigation suggests that future research is needed to isolated these molecules responsible for the antinociceptive effect of the *E. milli*.

**REFERENCES**


