**RESEARCH ARTICLE**

**EVALUATION OF ARGEMONE MEXICANA FRUITS EXTRACT USING MICRONUCLEUS ASSAY IN MOUSE BONE MARROW CELLS**

Rahi Ashish Jain¹*, R. C. Agarwal¹, Anamika Pandey¹ and Roshan Jain²

¹Department of Pharmacology, Jawaharlal Nehru Cancer Hospital and Research Centre, Idgah Hills, Bhopal-462 001, Madhya Pradesh, India
²Department of Pharmacognosy, Shri Ram Institute of Technology Pharmacy, Jabalpur-482 002, Madhya Pradesh, India

*E-mails: rahijain917@gmail.com
Tel.: +91-9981723706

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**INTRODUCTION**

Literature is enriched with several reports indicating cytotoxic potential of natural and synthetic compounds from diverse sources viz. sponges, plants and microorganisms (Devienne et al 2002; Gordaliza, 2010; Dahiya and Gautam, 2011) Micronuclei are cytoplasmic chromatin-containing bodies that appear in the cell like a small satellite nucleus around the cell nucleus, due to chromosome fragments or entire chromosomes that are not incorporated in main nucleus after cell division. The presence of micronuclei (MN) in cells is considered as a biomarker of damage to the DNA. The micronucleus test is an in vivo and in vitro short time screening cytogenetic test which is a widely used method for assessing genotoxicity of chemicals in organism (Heddle, 1973; Schmid, 1975; Meier et al 1999). Argemone mexicana Linn is known as Satyanashi which is medium size tree belonging to family Papaveraceae and is a strong branched prickly annual, 60-90 cm in height with yellow latex and simple, sessile and spiny leaves. Flowers are large, bright yellow, terminal on the short leafy branches, fruits are prickly capsules, oblong-ovoid, opening by 4-6 valves, seeds are numerous (Dwivedi et al 2008). The seeds contain 22-36% of pale yellow non-edible oil, called Argemone oil or Katkar oil, which contains the toxic alkaloids sanguinarine and dihydrosanguinarine. The plant contains alkaloids such as berberine, protoine, sarguinarian, optisine, chelerytherine etc. The seed oil contains myristic, palmitic, oleic, linoleic acids etc. (Mukherjee and Namhata, 1990).

According to Ayurveda, the plant is diuretic and purgative which destroys worms. It cures leprosy, skin diseases, inflammations and bilious fevers (Satpathy and Panda, 1992). The present