INVESTIGATION OF ANTI-VENOM POTENTIAL OF MIMOSA PIGRA STEM BARK AGAINST SNAKE ENVENOMATION

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Abstract- Snakebites represent a public health problem in numerous countries. In Malaysia, the common cobra (Naja kaouthia) is responsible for most bites, which display varied clinical complications. Since several plant extracts rich in pharmacologically active compounds have shown to antagonize venom of several species. Mimosa pigra a small prickly shrubthat infests wetlands and is also an agricultural weed in rice fields in many parts of the old world tropics,has been used against snakebite by the traditional healers in African jungles. However, there is paucity of scientific data in support. This study was aimed to evaluate the antivenom potential of methanol extract of stem bark of Mimosa pigra against Ophiophagus hannah(King cobra), Calloselasma rhodostoma (Malayan pit viper), Bungarus fasciatus (Banded krait) and Naja kaouthia (Cobra) venoms. The extract inhibited the phospholipase, platelet aggregation and haemolysis effects at varying concentrations. The phospholipase A2 enzyme responsible for inflammation and pain was significantly inhibited by Mimosa pigra extract at different concentrations. The highest inhibition was observed against Malayan pit viper and Cobra venom. When tested in vitro, the M. pigra extract inhibited ADP induced platelet aggregation at varying concentrations. The methanol extract also inhibited haemolysis induced by these snake venoms. The highest effect was observed against King cobra and Malayan pit viper. These results validated folk claims made by traditional healers'and exhibits the potential use of M. pigra as an antivenom agent of plant origin against four poisonous snake venoms found in Malaysia. However, further investigations are required to establish that M. pigra has potential for treating different snakebites.

Keywords- Mimosa pigra, snake venom, Malaysia

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