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Histopathological effects of feeding of calves with snake flower (*Echium italicum*)

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Snake flower is a 2-years old plant of boraginaceous family that grows in temperate and mountainous areas such as West-Azerbaijan province of Iran. Flowers of this plant are reddish blue and its stems have fuzzy cover and rough cords. Pyrrolisidine is one of its important chemical compounds and is the main factor of toxicosis that reported in animals in various area of the world. In this study, we collected the plant from different suburbs of Urmia and used it, as the only diet for 5 heads of calves. The results were compared with the control group that was fed just by hay. The animals were slaughtered after 2 months and tissue samples were collected for next histological examination. Results: Microscopically evaluation of tissue sections has shown changes as follow: Liver: the hepatic cells were dissociated and showed necrosis randomly. In kidney tubular cloudy swelling was seen and the Bowman's capsular spaces were extended due to urine accumulation. In some of the Purkinje fibres of heart, hydropic degeneration was seen. In two cases, the animal's heart had focal necrosis and in another one showed cardiomyolysis lesions. Intestine showed edema, severe inflammation and patchy mucosal necrosis and the lymph nodes showed reduction of cellular population in germinal centers of lymphatic follicles. In test group, one of the animals died during the examination period. The results have shown that the unusual consumption of this plant has toxically affects in different body organs. Paying attention to, one case of mortality, toxicity of this plant is completely critical and serious in farm animals. It seen the cardiotoxic damages in this toxicosis was more prominent.

Keywords: *Echium italicum*, histopathology, calf, heart

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