STUDENTS' CORNER
LETTER TO THE EDITOR

Exploring Sinomenine: New frontier in early brain injury treatment

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Dear Editor, Sinomenium is a rare plant alkaloid that releases histamine upon mast cell degranulation in mammalian tissue, It has been said that roots and the stem of the plant "Sinomenium Acutum" have been traditionally used to cure rheumatoid arthritis and neuralgia.[1] Sinomenium has shown beneficial physiological effects. It tends to possess various properties such as acting as an anti-inflammatory, anti-hypertensive, anti-arrhythmic and can even be utilized as an analgesic.[2] Furthermore, studies have shown that sinomenine can be used to slow tumour growth, its spread, and invasion while promoting cell death and effectively suppressing various types of cancers. Moreover, it has also proven to be favourable for different cardiovascular diseases. Possible drug reactions between sinomenine and other cardiovascular medications suggest promising prospects for its utilisation in the prevention or treatment of atherosclerosis.[2,3]

The therapeutic versatility of this plant alkaloid extract has caught the attention of many scientists as a recent study has highlighted the important role of sinomenium in cases of traumatic brain injury. The study analysed how Sinomenine affects early brain injury and its molecular mechanisms after a subarachnoid haemorrhage. As of now, there is no effective treatment for early brain injury from subarachnoid haemorrhage due to its unclear molecular processes.[4] The study utilized the peri chiasmatic cistern model in rats and injected them with their own blood, the results showed that sinomenium supplementation reduced brain oedema and improved neurological scores. It's proposed that sinomenium could potentially safeguard the brain and enhance neurological functions by suppressing the expression of apoptotic factors induced by early brain injury, moreover, it was also shown that this plant alkaloid could also inhibit microglial inflammatory response through Nrf2 pathway after a subarachnoid haemorrhage.[4] Nrf2 is an important regulator encouraging antioxidant activity, detoxification, and anti-inflammatory responses in cells. It protects multiple organs and plays a crucial role in recovery after subarachnoid haemorrhage.[4,5] This discovery could revolutionize emergency/ trauma patient management as it can make an impact by enhancing patient care and can drastically increase the survival rate of patients suffering from any sort of traumatic brain injury by rapidly improving patient prognosis and reducing the rate of mortality.

In conclusion, physicians, researchers, public health professionals, and the pharmaceutical fraternity need to highlight the importance of sinomenium as a drug of choice through the light of research in healing traumatic brain injuries, as early detection can lead to prompt treatment and better prognosis and can save someone from permanent disability.

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