

ABSTRACTS OF SELECTED PAPERS

Localization of fibrinolytic activity and inhibition of plasmin in the spinal cord of rat, guinea pig, and rabbit, by Athanasios Smokovitis and Tage Astrup. *J. Neurosurgery*, **48**: 1008-1014, June 1978.

Since there are no reports on the distribution of fibrinolytic activity in the spinal cord, specimens of the middle thoracic region of the spinal cord of rats, guinea pigs and rabbits were collected and investigated in regard to their fibrinolytic activity and to the presence of inhibitors of plasmin. In all species the highest fibrinolytic activity caused by a plasminogen activator was found to be related to the pia mater, whereas the plasmin inhibitory effect was related mainly to the grey matter with an additional area related to the dura mater. The highest and lowest fibrinolytic activity was found in the rat and rabbit spinal cords, respectively. Foci of activity were more numerous in the grey matter than in the white matter because of the greater vascularity of the former. It is suggested that trauma to the leptomeninges which display a high fibrinolytic activity may play a role in the pathogenesis of haemorrhagic processes related to the spinal cord.

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Plasma renin and serum dopamine-beta-hydroxylase during orthostatic hypotension in quadriplegic man, by David L. Kamelhar, John M. Steele, Robert G. Schacht, Jerome Lowenstein and N. Eric Naftchi. *Arch. Phys. Med. Rehab.*, **59**, 212-216, May 1978.

Six patients with a complete cervical spinal cord injury were studied to establish whether orthostatic hypotension is caused by a lack of sympathetic response and/or impaired renin release. Six able-bodied volunteers served as controls. Serum dopamine-beta-hydroxylase (DBH) and plasma renin activity (PRA) were measured during passive tilting and were found to increase significantly 15 min after tilt whereas in normals these parameters did not. Head-up tilting in quadriplegics was accompanied by a prompt and significant decrease in mean arterial pressure (MAP) and increased in heart rate whereas in normals MAP remained unchanged although HR increased. The increase of both DBH and PRA during passive tilting in tetraplegics shows that a decreased response of the sympathetic nervous system and/or the renin-angiotension system cannot account for orthostatic hypotension and the fact that reflex sympathetic nerve stimulation persists despite cervical cord transection. It is postulated that during tilt venous pooling into the lower extremities and the splanchnic bed is responsible for decreased cardiac output and hypotension, the latter eliciting reflex sympathetic activity as shown by increased DBH and NE release. The increase of PRA might be secondary to decreased renal perfusion pressure and increased sympathetic stimulation during orthostatic hypotension.

Comments: This excellent study expands our knowledge into the complex problem of endocrine reactions as they relate to orthostatic hypotension in the spinal man.

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