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ANTERIOR SPINAL ARTERY THROMBOSIS-A CASE REPORT

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Abstract :

Anterior spinal artery thrombosis is an extremely rare cause of acute ischemic cord infarction. The presentation is usually an acute and painful myelopathy with impaired bladder and bowel control. Pain and temperature sensation below the lesion are lost whereas vibration and position sense is intact because posterior column is intact. Here we present a case of Anterior spinal artery thrombosis of an 42 years old adult male. The lab results showed PROTEIN- S deficiency.

Keyword : Anterior spinal artery,Protein-S deficiency

CASE REPORT:

A 45 years old male patient, presented to our hospital with weakness of all four limbs with burning pain around his chest wall for past 12 hours. H/O sensory disturbance in the form of loss of touch, pain, temperature below neck. H/o bladder and bowel disturbance in the form of difficulty in initiating micturition and constipation. No H/o disturbance in Higher mental functions and Cranial nerves.

No H/o trauma. No H/o diabetes, hypertension, tuberculosis, coronary artery disease and bleeding disorder. He is a chronic smoker and alcoholic, married having two children. No H/o similar illness in his family members.

On examination, his vitals were stable. Higher mental functions were normal. All cranial nerves were normal, Fundus was normal. Spinomotor system showed hypotonia of all four limbs with power 0/5. Touch, pain, temperature was absent below C3 level with autonomous bladder. Vibration and position sense was intact. Other systems were normal.

Laboratory analysis showed normal complete hemogram, normal renal parameters and electrolytes. VDRL and HIV ELISA were negative. ECG, ECHO, X-ray chest, Liver function test, USG-Abdomen, Four vessel Doppler were normal. Sputum AFB was negative.

MRI spine with MRA showed Thrombus noticed in the Anterior spinal artery with bright signal along the anterior column of cervico-thoracic cord from C4 to T6. Posterior column is normal. Ascending and descending aorta- no aneurysm or thrombus was noted.

1.Axial section at C-4 level

2.Sagittal view

3.MR Angiogram

Coagulation profile :
ANA- Negative
Anti-cardiolipin antibody
IgG- 2.18 GPL/ml (0-15)
IgM- 1.30 MPL/ml(0-15)
Lupus anticoagulant- Negative
Protein C- 89% (70-130)
Protein S -47% (93-126)
Antithrombin III – 25mg/dl (22-39)
Prothrombin time- 12 sec (11-13)
BT-2 minutes
CT-5 minutes

DISCUSSION:

INTRODUCTION:

Ischemia or infarction of spinal cord in the distribution of anterior spinal artery, which supplies the ventral two-thirds of spinal cord is an extremely rare condition.

ETIOLOGY:

Atherosclerosis of aorta, dissection of an aortic aneurysm, hypercoagulable states like protein S, protein C deficiency, traumatic rupture of aorta, sickle cell disease, polycythemia, shock, cardiac
arrest, vasculitis.

CLINICAL PRESENTATION:

Acute onset of flaccid quadriparesis with impaired pain and temperature sensation below the level of lesion. Complete motor paralysis below level of lesion is due to interruption of corticospinal tract. Proprioception and vibration sensation is preserved, as it is in the dorsal side of spinal cord. Areflexia, flaccid anal sphincter, urinary retention and intestinal obstruction may also be present with anterior cord syndrome. Symptoms usually occurs very quickly and are often experienced within one hour of initial damage. MRI can detect the magnitude and location of damage 10-15 hours after initiation of symptoms. T2 W diffusion imaging may be used as it is able to identify the damage within a few minutes of symptomatic onset.

TREATMENT:

Based on primary cause. Heparin can be given in case of thrombotic causes.

CONCLUSION:

Prognosis is poor. Mortality is 20 to 50 percent even with aggressive treatment.Its an extremely rare
cause of ASA thrombosis. Only 6 cases were reported so far.

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