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Large Acute Spinal Posterior Subdural Hematoma Complicating Thrombolysis With Streptokinase in Acute Myocardial Infarction (Case Report)

Medical Science

KEYWORDS :

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BACKGROUND:
Thrombolysis therapy is the cornerstone of treatment of ST elevation myocardial infarction. It is associated with multiple complications. One of the complications is intracranial bleeding. But intraspinal hemorrhage causing cord compression is rare. Still rarer issubdural posterior spinal hematomaresulting in quadriplegia.

CASE:
35 year old male patient came to the hospital with chief complaints of-
Retrosternal chest pain since 2 hours
Excessive sweating since 2 hours
One episode of vomiting 1 hour back
-No H/O similar complaints in the past
-No H/O unconsciousness
-No H/O breathlessness
-No H/O palpitations
On examination,
-patient was conscious
- diaphoresis was present,
- pulse rate was 56/min regular low volume
-blood pressure was 90/60 mm Hg in right arm supine position
-JVP was raised
-Respiratory rate was 18/min regular
-cardiovascular examination did not reveal any murmur.
ECG was done which showed
-2 mm ST elevation in II,III and aVF leads
-ST depression with T wave inversion in I and aVL ,V2
- Right sided lead showed ST elevation in V4R.

The patient was given fluid challenge with 200 mL Normal Saline and thombolysed with 1.5 MU STK .

Following the thrombolysis, the chest pain decreased, heart rate increased to 78/min, regular. Blood pressure increased to 120/80 mmHg. ECG after thrombolysis showed decrease in ST elevation. Patient tolerated thrombolysis well without any arrhythmias or other immediate complications. Patient was put on subcutaneous low molecular weight heparin and antiplatelet drugs.

Routine investigations were normal as follows:

Sr. No	Investigation	Result
1	Hemoglobin	10 g%,
2	Total leukocyte count	10,000/mm^3
3	Serum creatinine	1.2 mg/dl
4	Blood urea level	27 mg/dl
5	INR	1.3

36 hours afterthrombolysis the patient complained of sudden onset severe back pain in upper thoracic region whichincreased on coughing. After 6 hours he started complaining of weakness in both lower limbs and developed retention of urine for which he was catheterized. In the next 4 hours, patient developed profound weakness in all 4 limbs. Neurological examination revealed acute onset, progressive sensory motor quadriplegia with bladder involvement.

MRI cervical and thoracic spine revealed, large acute extra axial intraspinal posterior subdural hematoma from C2 to D3 level causing cord compression and intramedullary hyperintense signals seen in cord from C7 to D3 levels suggestive of cord edema. (Fig.1 &2)

The low molecular weight heparin and antiplatelet drugs were stopped . Coagulation profile was immediately obtained . Patient was referred to neurosurgeon for decompression. Patient was operated immediately and evacuation of hematoma was done. The patient gradually improved and had complete recovery in the next 7 days.

During follow up , patient had no angina, no features of heart failure and no neurological deficit.

Fig.1. Sagital section of spinal cord showing posterior subdural spinal hematoma

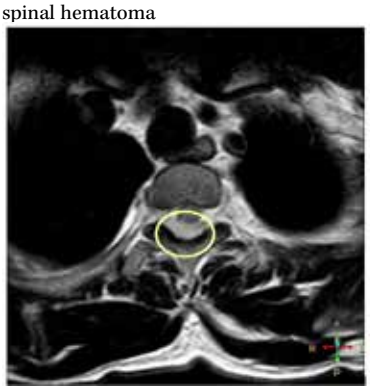

Fig.2. Transverse section of spinal cord showing posterior subdural spinal hematoma

DISCUSSION:

1. Streptokinase therapy for acute myocardial infarction is associated with various bleeding complications.**Intracranial hemorrhage, occurs in 0.46–0.88%** of patients treated with thrombolytic agents.[1]
2. Unlike intracranial hemorrhage , intraspinal hemorrhage **usually occurs in epidural space** most often in dorsal thoracic spine. Incidence of spinal subdural hematoma after thrombolysis is extremely rare.[2]
3. The most frequent clinical symptom of a intraspinal hematoma is **neck or back pain** with or without radicular symptoms. Neurological deficits from spinal cord compression can appear insidiously or abruptly and progress in a wide clinical picture of **complete paraplegia/quadriplegia to Brown–Séquard's syndrome**.[3]
4. **MRI scan is the investigation of choice** for suspected intraspinal hematoma.It provides multiplanar accurate information on both the location and extent of hematoma, as well as the intensity of spinal cord compression by the lesion and is useful in differentiating accompanying intraspinal masses and to follow-up the resolution of the hematoma.[4]
5. **Emergency surgery is the treatment preferred for intraspinal hemorrages** but patient-specific factors should be carefully evaluated prior to surgery. Anticoagulants and thrombolytics should be immediately discontinued and correction of coagulopathy should be undertaken prior to surgery. [5]
6. **Conservative treatment is still an important option of treatment in some selective patients** with mild and rapidly spontaneous recovery symptoms or high surgical risk patients with bleeding tendency associated with severe systemic disease , advanced cardiovascular disease or advanced and irreversible spinal cord injury. Patients can be managed conservatively withreversal of coagulant effects, close observation of neurologic deficits and in occasional cases, methylprednisolone administration may achieve good results without surgery.

CONCLUSION :

Thrombolytic therapy has significant role in reperfusion for patients of acute myocardial infarction presenting within 12 hours .The physician should be careful in monitoring the patients , as it may result in bleeding complications. Intraspinal hemorrhage is rare complication , early recognition and management is crucial in preventing neurodeficit.

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