AUTONOMIC HYPERREFLEXIA


1. This is a condition that appears mostly following spinal shock resulting from spinal cord injury above T6-7.

2. **Spinal shock:** Occurs immediately after the spinal injury and is from loss of descending impulses from higher centers, mainly the corticospinal tract and is manifested by flaccid paralysis and loss of reflexes that lasts from hours to about a month. Symptoms include bradycardia, hypotension, hypoventilation, EKG changes, inability or decreased ability to protect airway (high aspiration risk).

3. After recovery from spinal shock, spastic paralysis begins to manifest itself.

4. The stimulus for autonomic hyperreflexia can be any endogenous or exogenous stimuli below the level of the lesion (distended bladder or rectum is commonest).

5. Lack of supraspinal inhibition that allows the sympathetic outflow below the lesion to react to the stimulus unopposed is the cause of this problem.

6. Degree of response is generally proportional to the degree of stimulus and is greater as the distance increases between level of cord lesion and entry level of the stimulus.

**Signs/symptoms:**

- Hypertension (due to centrally mediated increased sympathetic tone).
- Bradycardia (secondary to HTN acting on carotid sinus)
- Profuse sweating
- Ventricular dysrrhythmias
- Flushing (vasodilation) above the lesion and blanching (vasoconstriction) below the lesion
- Severe headache, difficulty breathing, nausea, shivering, blurred vision

**Important considerations:**

- Spinal injury → intubation problems
- High aspiration risk
- If untreated→ Hypertensive crisis→ Seizure, ICH, MI
- Nitrous narcotic technique less effective, epidural,topical or sympathetic blockade less reliable.
- Alpha adrenergic blocker less effective
- Appears frequently on Boards

**Treatments:**

- Removal of the stimulus (empty bowel and/or bladder).
- General or Spinal (most effective)- deep anesthesia with volatile agents, awake fiberoptic, rapid sequence etc. Spinal is a good choice but may be technically difficult.
- Succinylcholine should be avoided for about 1 day to 1 year after cord injury (risk of hyperkalemia)
- Sodium nitroprusside- antihypertensive of choice
- Maintain temperature below the level of lesion.
References:

