Spinal cord infarction

Spinal cord infarction usually involves the anterior spinal artery, sparing posterior columns. Usually ≈ T4 level (watershed zone).

a) atherosclerosis of radicular artery in elderly patient with hypotension

b) clamping aorta during surgery (e.g. for abdominal aortic aneurysm)

c) hypotension (relative or absolute) during surgery in the sitting position in the presence of spinal stenosis [1].

d) aortic dissection: especially thoracic spinal levels

e) vertebral artery dissection: especially cervical spinal levels

f) embolization of spinal arteries

Spinal cord infarction (SCI) is uncommon compared to cerebral stroke, but the outcome may be more disabling. Due to its rarity, reliable estimates of incidence are scarce; however, one study noted SCI accounted for 1.2% of all strokes.

SCI due to occlusion of the anterior spinal artery, the principal vascular supply to the spinal cord, characteristically presents with an abrupt onset of bilateral weakness, especially the lower limbs, sudden back pain that radiates caudad, flaccid paraplegia, areflexia, loss of pain and temperature sensations below the level of the lesion, sparing of proprioception and vibration sense, and autonomic dysfunction involving the bladder and bowel [2]

1)
Epstein NE, Danto J, Nardi D. Evaluation of Intraoperative Somatosensory-Evoked Potential Monitoring During 100 Cervical Operations. Spine. 1993; 18:737–747
2)
Goetz CG. Textbook of Clinical Neurology, Second Edition. Philadelphia: Saunders; 2003:273–4, 401–02,417.