

Masked Duodenal Perforation in Patient with Traumatic Quadriperesis

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Abstract

Introduction: Patients with cervical cord lesions have an increased susceptibility of developing life-threatening gastrointestinal complications¹⁻⁵. The reported incidence of gastrointestinal tract complications in spinal cord injury patients ranges from 4.7%³ to 6.2%¹.

Case Presentation: A case of traumatic quadriperesis presented with chief complaints of abdominal distention, obstipation and pain abdomen since day 1. On examination gaseous distention of abdomen with guarding, rigidity bowel sounds were absent. Liver dullness was obliterated. Digital rectal examination revealed empty rectum.

Conclusion: Life threatening acute abdomen in the background of acute spinal injury is usually silent and findings may be masked either due to loss sensation and tone of abdominal muscle or because of ongoing steroid therapy. Definitive investigation and accurate approach can change the results of life threatening condition like hollow viscus perforation.

I. Case Presentation

A 65 year old male gentleman admitted with history of fall from bicycle with complaints of neck pain and low backache 9 days back. Central nervous system examination revealed normal higher mental function and cranial nerve examination were normal without any sensory loss. Motor examination upper limb power 3/5 areflexia and hypotonia, lower limb motor power 3/5 with areflexia, hypotonia and bilateral plantar extensor. MRI cervical spine revealed traumatic central and paracentral disc protrusion at C3-C4 causing bilateral foraminal narrowing and abutting bilateral C4 nerve. The patient was managed nonoperatively with low dose steroids and diclofenac sodium.

The patient presented with chief complaints of abdominal distention, obstipation and pain abdomen since 1 day. On examination gaseous distention of abdomen with guarding, rigidity bowel sounds were absent. Liver dullness was obliterated. Percussion of abdomen revealed gross free fluid with shifting dullness. Digital rectal examination empty rectum. Routine investigation revealed total WBC count of 16000/cumm. x-ray erect abdomen showed no signs of pneumoperitoneum. Diagnostic peritoneal paracentesis revealed thick turbid fluid with feculent smell. Hence a provisional diagnosis of hollow viscus perforation leading to peritonitis confirmed. Patient underwent emergency laparotomy, with per operative findings of D1 perforation with plenty of flakes which was closed with live omental patch. Postoperative period was uneventful.



Figure 1.1 shows MRI spine with c3-c4 disc protrusion

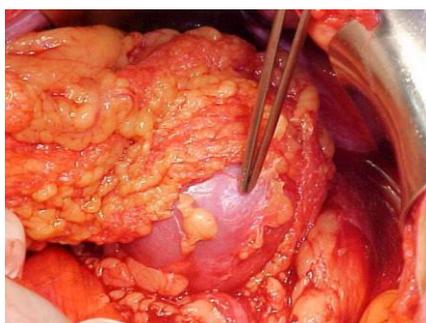


Figure 2.2 shows 0.5*0.5 duodenal perforation after thorough wash



Figure 3.3x ray erect abdomen no evidence of pneumoperitoneum

II. Case Discussion

Patient with traumatic cervical cord injury have increased susceptibility to develop life threatening gastrointestinal complication¹⁻⁵.

Spinal cord injury patients presents with disruption of autonomic innervation of gastrointestinal tract

The pelvic and vagus nerves are the source of parasympathetic innervation to the gut the parasympathetic nerve most of the time remains intact after cervical spine injury, but sympathetic innervations are lost. This results in uncontrolled parasympathetic activity, which enhance gastric stasis, pancreatic and gastric secretions with relaxation of sphincters, causing the majority of gastrointestinal complication in spinal cord injury⁶.

The use of large dose NSAID'S, steroid administration has been advocated in spine injuries to lessen neurological deficits: however it can act a two-edged sword particularly in patient with spinal cord injury [6,7]. present case illustrates that in the background of acute spinal cord injury, silent, hidden and life threatening abdominal complication can occur and clinical manifestation masked by associated neurological deficits or the use of steroids.

III. Conclusion

The use large-dose steroid administration has been advocated in spine-injured patients to lessen neurologic deficits; however, it can act as a two-edged sword,³⁻⁴ as there is an increase in the incidence of haemorrhaging and perforating gastrointestinal lesions in patients with cervical cord lesions,^{2,3,5} particularly in patients with complete deficits.³ As in the present case, patients with complete high cervical cord lesions can develop painless perforation and peritonitis, with increased morbidity². As in the present case, in the background of acute spinal cord lesion, clinical manifestations of silent life-threatening acute abdominal complication may be masked by the associated motor and sensory deficits. In the present case, it was not possible to diagnose whether the duodenal perforation was because of the use of steroids or was an unusual complication of Cushing's ulcer in a patient of spinal cord lesion. As in the literature, we recommend that a high index of suspicion and an aggressive therapeutic approach is necessary to avoid an increase in morbidity^{2,3}. In summary, when there is a hollow viscous perforation, it is straightforward and quite easy to diagnose based on clinical and radiological findings. However, when routine X-ray of the abdomen is inconclusive, a lateral X-ray of the

abdomen after insufflation of the 100 cc air through the nasogastric tube can help in the diagnosis without the further need of computed tomography scan of the abdomen

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