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Clinics of Surgery

Case Report

Ileal Perforation Following Laminectomy for Lumbsacral Spine – Rare Complication

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1. Abstract

Low back pain remains the common reason to see the doctors in the clinics and in United states it remains the second most common reason to see neurosurgeon or orthopedic doctor in their respective outpatient departments. However as the presentation is common so is the surgery for the disease is common and as with all surgeries this also carries a small risk of complications. Bowel perforation is a rare yet documented complication following a spinal surgery and in our case it was diagnosed within 18 hours of the laminectomy which was performed via left sided anterolateral approach.

2. Key words

Laminectomy; Ileal perforation; Sepsis and Spetic shock

3. Introduction

Bowel injury following spinal surgery is not a common finding. However whenever seen requires a prompt action towards minimizing the mortality and morbidity of the patient.

4. Case Report

28 years old male presented to emergency department with complaints of abdominal pain and vomiting for last 18 hours. He was feeling lethargic and dehydrated. He underwent spinal surgery a day before through anterolateral approach over the left side. He underwent laminectomy with discectomy at L4 and L5 level and was in hospital when he developed the abdominal symptoms. As the patient had been in an orthopedic sector he was referred to us.

Upon examination in emergency department. Patient was found to be sick looking, dehydrated and febrile (**Figure 1** and **2**).

Pulse: 105/minute, Respiratory rate: 22/min

Abdomen: Generalized tenderness with absent gut sounds. A 4 cm transverse incision seen just below the left lumbar area in an anterolateral plane.

Ct scan abdomen with contrast done revealed pneumoperitoneum.

Patient was counseled regarding the free air below diaphragm taking into account the presence of an iatrogenic perforation of a hollow viscus and was taken up for an emergency laparotomy. Patient underwent exploratory laparotomy which revealed 2 rents in the retroperitoneal tissue alongside of sigmoid colon and a perforation of 3x3cm size in ileum approximately 6-7 cm away from ileocecal junction (**Figure 3** and **4**).

The entire small bowel was explored and so was the large bowel including descending colon up to the splenic flexure. The abdominal cavity was washed with normal saline and the ileal perforation was exteriorized as ileostomy as being an acute infectious setup primary repair was not considered as ideal. Drain was placed in pelvis and wound closed in layers. Patient had an uneventful postoperative recovery and was discharged home after three days of hospital stay.

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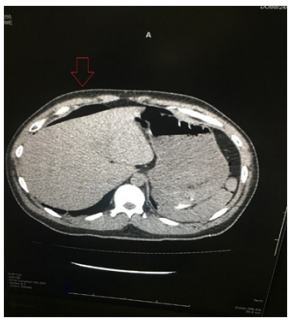

Figure 1: showing pneumoperitoneum.

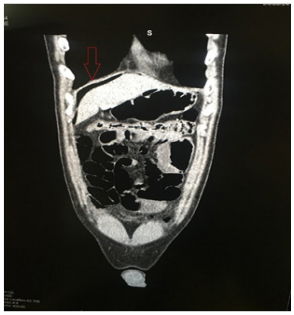

Figure 2: Showing Pneumoperitoneum.

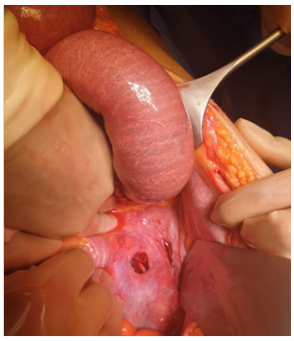

Figure 3: Two rents in retroperitoneal tissue.

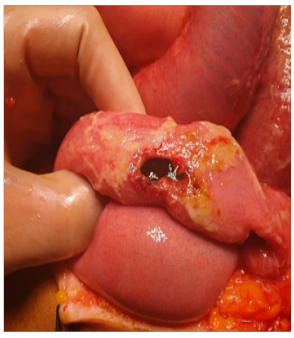

Figure 4: Perforation in ileum.

5. Discussion

Disc herniation is a common reason to walk in a neurosurgical or orthopedic clinic. Sometimes herniation is compressing the nerve in a manner that patients end up in emergencies[1]. As the disease is common so the treatment is being done commonly in almost all the centers. Laminectomy, discectomy are the common procedures being done for the patient and as every procedure has some complication rate being simple or complex so is with these mentioned procedures as well. However anterolateral spinal approach leading to trauma to small bowel is a rare complication and has happened for our patient. The most acute complication would be an injury to a vessel which can present as hypotension, bradycardia and shock like features[1,2]. In fact retroperitoneal vascular injury is the most common complication following a spinal surgery but vascular injury presents early and bowel injury can present with late signs and so there are greater chances for missing a bowel perforation as it can present with subtle signs and symptoms. However the incidence of bowel perforation is rare having an incidence of 0.0015%.reported by German society of Neurosurgery.

The first case of small bowel perforation following a spinal surgery was in 1954. Whenever the patient is lying in a prone position the small bowel gest anterior to the vertebral column and via this approach if the penetration is deep it can injure the small bowel[1,2].Clinically the patient presents with signs of fever, tachycardia and generalized abdominal pain. Patient has to be evaluated and any of the mentioned signs should not be ignored. Next step to confirm the clinical findings is a radiological investigation as CT scan is ideal to diagnose any bowel perforation. However the key lies in early diagnosis as if not being diagnosed early due to bowel perforation patient can go in septicemia and septic shock[2]. After confirming the diagnosis ideal treatment is laparotomy with identifying the area of perforation and depending on the clinical findings and clinical condition of the patient repair of perforation or exteriorizing it in the form of ileostomy or colostomy shall be decided. Few surgeons like to do a laparoscopy and identify the area and later decide whether to convert it to an open procedure or not[3,4]. However in our case the patient was sick enough to do a diagnostic laparoscopy and hence was taken up for an exploratory laparotomy and ileostomy was made[5].

6. Conclusion

Literature does not say much about the bowel perforation with regards to spinal surgery. However disc herniation remains common and laminectomy along with discectomy will remain as one of the commonly performed procedures. However we should always have a high index of suspicion towards signs and symptoms directing us towards bowel injury or bowel perforation following spinal surgery as key to the treatment lies in diagnosing the condition early.

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