

## Upper Lumbar Disc Herniation Presenting as Acute Abdomen

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**Abstract-** A woman presenting with severe right lower quadrant (RLQ) abdominal pain is presented here. She was evaluated for all usual cause of such pain. Laboratory tests and abdominal and pelvic sonography was normal. MRI revealed L1-L2 disc herniation.

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**Key words:** Disc herniation, acute abdomen, spine

### Introduction

Lumbar disc herniation is not a rare condition in middle age. It commonly presents with low back pain and neurological findings. We report on an unusual manifestation of lumbar disc herniation with severe right lower quadrant abdominal pain accompanied by several non specific misleading symptoms. Although there is several case reports about thoracic disc herniation presenting with abdominal pain, (5-10) the complex symptom we faced with as a result of lumbar disc herniation is not reported before, to the best of our knowledge.

### Case Report

A 51-year-old woman with history of mild chronic back pain admitted in Emergency Department of Hazrat Rasool general hospital with acute RLQ abdominal pain referring to right groin. The pain was started less than 24 hours of admission. It was so severe that she couldn't lie down. She also suffered from frequency, urgency and urethral discharge while there is not any complaint about nausea, vomiting, diarrhea or anorexia.

In physical examination, HR of 80, RR of 20, BP of 130/85 mm/Hg and T of 38 C at first day that decrease to 37.5 C in second day was detected. There was a clearly abdominal tenderness and also right paraspinal upper lumbar tenderness. Neurological examination, including SLRT (straight leg raising test) and reverse SLRT, proximal and distal lower limb force, was

normal. Furthermore, her gynecologic examination was also normal.

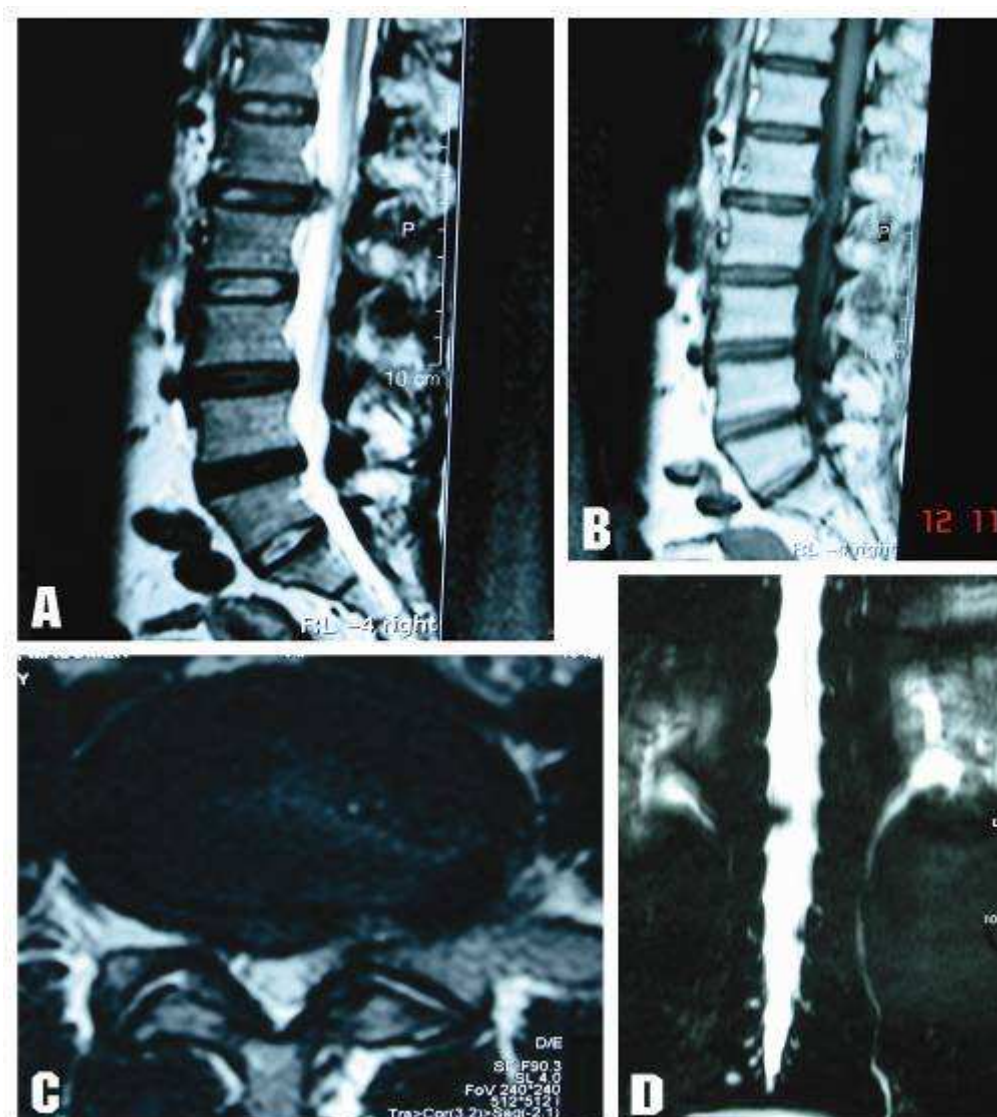
Laboratory tests was performed and the result was WBC of 13800/mm<sup>3</sup> with predominant polymorph cells (80%), Hb of 12 g/dL, ESR 1 hour of 6 mm/h, FBS of 94mg/dL, BUN of 14 mg/dL, Cr of 0.9 mg/dL, PT of 13 second, PTT of 30 second, ALT of 16 U/L, AST of 17 U/L, ALP of 208 U/L, serum amylase of 40 U/L, Na of 142 mEq/L and K mEq/L of 5 mEq/L. urinalysis was normal and urine culture was negative (in three times repetition).

The smear from urethral discharge showed WBC of 1-2 and RBC of 1-2 per microscopic field and many mucous. Electrocardiograph, abdominal and pelvic sonography was normal.

Due to frequency, urgency, one degree of fever, predomination of polymorph cells in blood smear and paraspinal upper lumbar tenderness which was misunderstood as costovertebral angle tenderness, first differential diagnosis was pyelonephritis followed by other causes of acute abdomen, like appendicitis, gynecological problem and pancreatitis. The findings were such nonspecific that neither justified pyelonephritis nor an emergent surgical cause. Three days later, regarding to her paraspinal upper lumbar tenderness, spinal MRI was obtained excluding paravertebral abscess and discitis. Surprisingly, a right L1-L2 disc herniation showed by MRI (Figure 1). After right transfacet discectomy all the symptoms were relieved and she went back to her usual life in several days.

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**Figure 1.** A: Sagittal T2 weighted MRI demonstrate L1-L2 disc herniation and compression of thecal sac. B: Sagittal T1 weighted MRI revealed a L1-L2 disc herniation compressing conus medullaris. C: Axial T1 weighted MRI showed a right L1-L2 disc herniation. D: MR myelography revealed a right L1-L2 disc herniation and right thecal sac compression.

### Discussion

Acute abdomen refers to the pain that arises suddenly and is often less than 48 hour duration (1). Most common cause of acute abdomen is NSAP (non specific abdominal pain) nearly 34% of all cases. It is followed by intra peritoneal causes as acute appendicitis 28.1%, acute cholecystitis 9.7% and small bowel obstruction 4.1% (2).

This statistic has been confirmed by several other surveys (3,4).

Neurological cause of acute abdomen include herpes zoster, tabes dorsalis , nerve root compression, spinal

cord tumor, osteomyelitis of the spine, abdominal epilepsy, abdominal migraine and multiple sclerosis (1)

There are several reports about abdominal pain originating from spine. These include thoracic disc herniation presenting with chronic abdominal pain (5,6), thoracic disc herniation presenting with chronic nephritic like colic (7-9) , a thoracic disc herniation presenting with subacute abdominal pain and tenderness in addition of pelvic pain (10), spinal epidural abscess presenting with acute abdomen (11) and discitis with manifestation of severe abdominal pain (12-14).

Thoracic disc herniation can cause variety form of abdominal pain as mentioned. However, upper lumbar

disc herniation presenting as acute abdomen to our knowledge is firstly reported here.

Lumbar disc herniation could be the cause of abdominal pain. Lower abdomen, scrotum, mons pubis and labia major are innervated by Iliohypogastric, Ilioinguinal and Genitofemoral nerves. Iliohypogastric nerve arises from T12 and L1 whereas Ilioinguinal and Genitofemoral nerves belonging to L1 and L2 root. These roots can be compressed in disc herniation which produce pain. Clearly, this pain can mimic gastrointestinal and genitourinary disease. For instance, 3 cases of lumbar disc herniation presenting with scrotal pain have been reported before (15,16).

One point is remained about our case. She suffered from frequency, urgency, urethral discharge and predomination of polymorph cell in blood smear. We believed that all these symptoms are caused by nerve compression and nerve extinction as well as her one degree of fever probably produces by her severe pain which resulted in sympathetic discharge. In conclusion, to the best of our knowledge, this is the first report of upper lumbar disc herniation which was presented as acute abdomen. Therefore although spinal diseases and especially lumbar disc herniation are absolutely rare cause of acute abdomen, they must be considered in complicated cases and in cases which signs, symptoms and laboratory tastes do not implicate an apparent diagnosis.

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