Simultaneous endovascular aortic stenting and reposition of misplaced instrument for iatrogenic spinal screw penetration into abdominal aorta

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Disclosure

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I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☑ I do not have any potential conflict of interest
A 61-year-old female

- Presented with low back pain and neurogenic claudication
- Dx: Spinal stenosis
- Operation:
  - Decompressive laminectomy
  - Posterior instrumentation L3-L5
- Posterior approach in prone position
- Operation was success uneventfully
Film LS spine, POD 1

Lt. L3

Lt. L5
Lt.L3 screw
Rt.renal a
Lt. L5 screw
Planning

• Supine position
  • Create vascular access at Lt.axillary a + Lt.CFA
  • Covered stent placement Lt.CIA

• Rt.lateral decubitus position
  • Aortic stent graft placement
  • Spinal screw adjustment by orthopedist
Lt. axillary cutdown, Flexor sheath 12 Fr 45 cm
Lt.CFA puncture, Durasheath 8 Fr 45 cm
Lt. iliac angiogram
Lt.CIA stenting (Covered BES)

Lt.L5 screw

BeGraft 10*37 mm
Reposition to Rt. lateral decubitus

Sheath 12 Fr 45 cm

Sheath 8 Fr 45 cm
Aortogram
Two teams approach
Inflate Mustang balloon 12*40 mm
For partial aortic occlusion

BeGraft Aortic 14*49 mm
Covered stent was prepared
Remove Lt.L3 screw from aorta

Screw removed
Deploy Begraft over injury site

BeGraft Aortic 14*49 mm
Completion angiogram
New Lt.L3 and L5 screw were placed
Post operative

- Hemodynamic stable
- Hematocrit stable
- Rehabilitation: can ambulate with gait aid
- D/C on POD 5
Conclusion

• Iatrogenic abdominal aortic injury by misplaced spinal screw instrumentation is rare complication following posterior spinal fixation

• By endovascular approach, aortic repair using balloon-expandable stent graft and reposition of spinal screw can be done simultaneously in the same operation