Why Spinal Fluid Drainage Should Not Be Used Routinely In All TAAA Repairs: Why Its Use Should Be Restricted To Specific Indications Or SCI Symptoms: What Are These Indications

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Disclosure

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- Some devices presented here are investigational and have not been approved by the FDA
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Spinal cord ischemia (SCI)

- Spinal cord ischemia (SCI) is a devastating complication after open and endovascular repair of thoracoabdominal aortic aneurysms (TAAA)
- Spinal drains are routinely used to ameliorate the frequency and severity of SCI, but their use may result in inherent morbidity and mortality.

IONM (MEP & SSEP) for F/BEVAR

- 49 pts (90%, TAAAs) → All CSF drainage
- SCI 3 pts (6%)
- 63% → 75%; MEP/SSEP amplitude
- MEP/SSEP back to baseline but in 1 pt

SCI after TAAA EVAR

- The need for or the effectiveness of spinal drains for TAAA EVAR has not been demonstrated.
- The aim of this study was to assess the outcomes of spinal cord protection without the routine use of spinal drains during TAAA EVAR.

Physician-sponsored Investigational Device Exemption (IDE)
IONM (MEP & SSEP) for F/BEVAR

- No preop CSF drains
- CSF drains only for persistent MEP deficits
- Exclusive PQ access

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IONM & Selective Spinal Drain Use

- 34 patients (73%, male)
- TAAA
  - Type I 9%
  - Type II 38%
  - Type III 24%
  - Type IV 29%
- 80% > 75% ↓ MEP/SSEP amplitude
- MEP/SSEP back to baseline but in 1 pt

30-day mortality, 2 patients (6%)
Spinal CSF drain placed in 4 (12%)
  - 1 IOP for sustained ↓ MEP/SSEP
SCI in 4 pts (12%) POP 2° hypotension
  - 2 permanent (6%)_CSF drainage without resolution
  - 2 transient paraplegia (6%)
    - 1 resolved with permissive HTN
    - 1 resolved with CSF drainage
Intracranial bleeding, 2 patients (6%)

Conclusions

- Thoracoabdominal EVARs can be performed with low mortality and minimal risk of SCI without the need of routine spinal drains
- A standardized protocol that relies on perioperative maintenance of adequate arterial pressure and IONM is required.
- Tight blood pressure control is, however, mandatory to avoid possible devastating complications related to uncontrolled hypertension
- Future studies are required to define the role and need of spinal drains for thoracoabdominal EVARs