

## **7.2 Headache attributed to low cerebrospinal fluid pressure**

### **7.2.1 Post-dural (post-lumbar) puncture headache**

Diagnostic criteria:

- A. Headache that worsens within 15 minutes after sitting or standing and improves within 15 minutes after lying, with at least one of the following and fulfilling criteria C and D:
  - 1. neck stiffness
  - 2. tinnitus
  - 3. hypacusia
  - 4. photophobia
  - 5. nausea
- B. Dural puncture has been performed
- C. Headache develops within 5 days after dural puncture
- D. Headache resolves either<sup>1</sup>
  - 1. spontaneously within 1 week
  - 2. within 48 hours after effective treatment of the spinal fluid leak (usually by epidural blood patch)

Note:

- 1. In 95% of cases this is so. When headache persists, causation is in doubt.

### **7.2.2 CSF fistula headache**

Diagnostic criteria:

- A. Headache that worsens within 15 minutes after sitting or standing, with at least one of the following and fulfilling criteria C and D:
  - 1. neck stiffness
  - 2. tinnitus
  - 3. hypacusia
  - 4. photophobia
  - 5. nausea
- B. A known procedure or trauma has caused persistent CSF leakage with at least one of the following:
  - 1. evidence of low CSF pressure on MRI (*eg*, pachymeningeal enhancement)
  - 2. evidence of CSF leakage on conventional myelography, CT myelography or cisternography
  - 3. CSF opening pressure <60 mmH<sub>2</sub>O in sitting position
- C. Headache develops in close temporal relation to CSF leakage
- D. Headache resolves within 7 days of sealing the CSF leak

### **7.2.3 Headache attributed to spontaneous (or idiopathic) low CSF pressure**

Previously used terms:

Spontaneous intracranial hypotension, primary intracranial hypotension, low CSF-volume headache, hypotension-related headache

Diagnostic criteria:

- A. Diffuse and/or dull headache that worsens within 15 minutes after sitting or standing, with at least one of the following and fulfilling criterion D:

1. neck stiffness
  2. tinnitus
  3. hypacusia
  4. photophobia
  5. nausea
- B. At least one of the following:
1. evidence of low CSF pressure on MRI (*eg*, pachymeningeal enhancement)
  2. evidence of CSF leakage on conventional myelography, CT myelography or cisternography
  3. CSF opening pressure <60 mmH<sub>2</sub>O in sitting position
- C. No history of dural puncture or other cause of CSF fistula
- D. Headache resolves within 72 hours after epidural blood patching

Comments:

The underlying disorder may be low CSF volume. A history of trivial increase in intracranial pressure (*eg*, on vigorous coughing) is often elicited. In other cases a sudden drop in atmospheric pressure has occurred.

Postural headache resembling that of low CSF pressure has been reported after coitus. Such headache should be coded here because it is due to CSF leakage.

Many patients with spontaneous low CSF pressure headache respond to epidural blood patching, epidural saline infusion or pharmacological therapies such as intravenous caffeine or conventional analgesics. Some have spontaneous resolution of their headache, while others relapse after initial successful treatment. Cases of dural sleeve herniation, particularly in the thoracic area, have been reported and have been successfully treated surgically.

Dural puncture should be avoided in patients with positive MRI signs such as meningeal enhancement with contrast.