**INDICATION**

– to predetermine patient’s **tolerance to carotid occlusion** during preparation for carotid ligation.

30% population will not tolerate carotid ligation without stroke! (49% of ICA and 28% of CCA ligations) H: bypass see p. Vas7 >>

- carotid ligation is used:
  1) nonoperable **aneurysms** of carotid artery; now its rare - microsurgical techniques and multiple designs of clips allow for direct aneurysm obliteration and parent artery reconstruction.
  2) radical resections of **tumors** located along intracranial course of ICA (carotid ligation for cure or hemostasis).

**TECHNIQUE**

- **temporary balloon occlusion:**
  - after angiography, nondetachable balloon is positioned in ICA under local anesthesia.
  - patient is **anticoagulated** with heparin, 100 U/kg (serial activated clotting times should be twice control time).
  - balloon is expanded and occlusion of flow verified **angiographically**.
  - patient is examined **neurologically** throughout procedure.
  - additional monitoring:
    1) scalp EEG (any slowing or change in symmetry of activity)
    2) transcranial Doppler (changes in direction and velocity of flows)
    3) regional CBF studies (additional verification of adequacy of collateral flow) – Xe inhalation, SPECT using $^{99m}$Tc-HMPAO.

**COMPLICATIONS**

$\approx 3.7\%$:

  1) asymptomatic carotid dissection (2%)
  2) permanent neurologic deficit (0.33%).

**BIBLIOGRAPHY** for ch. “Neurovascular Examination” → follow this LINK >>