ENDOVASCULAR TREATMENT OF VASOSPASM: series of 57 patients with aneurysmal subarachnoid hemorrhage


Curitiba – Brazil
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Introduction

- Vasospasm in 30% to 70% of patients;
- Proposed triple H therapy problems:
  1. Hypervolemia: greater bleeding
  2. higher cost.
  3. Hemodilution: reduces the supply of brain oxygen.
- Intra-arterial papaverine does not improve the result due to its transient effects;
- Glyceryl trinitrate (nitroglycerin or NTG): NO donor. It increases CBF, lowers mean blood pressure and dilates spastic cerebral arteries.
Results

- We report 57 patients treated with angioplasty (PTA) for aneurysmal vasospasm between 2016 and 2019;
- Most patients were women (48 x 9) with a mean age of 53 years old;
- Mean Hunt Hess: 2.8 and Fisher: 3.5;
- Multiple aneurysms in 25 patients, with a total of 99 aneurysms (ruptured and non-ruptured). There were 19 clips and 13 embolizations.
Results

• The procedures were performed within a mean of 5.14 days after the stroke;
• The endovascular treatment of vasospasm had a mean of 9.49 days after the stroke;
• Patients were submitted to 76 PTAs;
• 58 were Nitroglycerine and 28 mechanical with balloon. No complications from the PTA.
Results

- We had a mortality rate: 21% (12 patients);
- Mean Glasgow Coma Scale after 60 days from the stroke of 13 and Modified Rankin Scale of 2.82;
- Average follow-up of 17.68 months.
Balloon vs NTG

- Balloon remodeling technique
- Both
- Nitroglycerin
Mortality rate

Death: 21%
Conclusion

- Vasospasm is a known complication that soars up substantially the morbimortality from SAH.
- Endovascular techniques for vasospasm are safe and decrease the morbimortality.
- Although Nitroglycerin might not be the most recommended drug used in PTA for vasospasm, if there is no other option, this is a feasible choice in face of such a terrible scenario.