


Managing Periprocedural Hemodynamics: The First 24 Hours

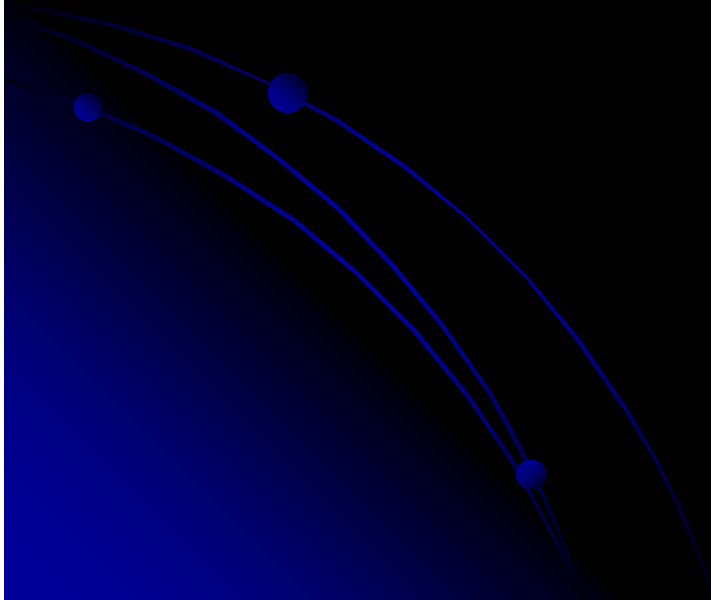
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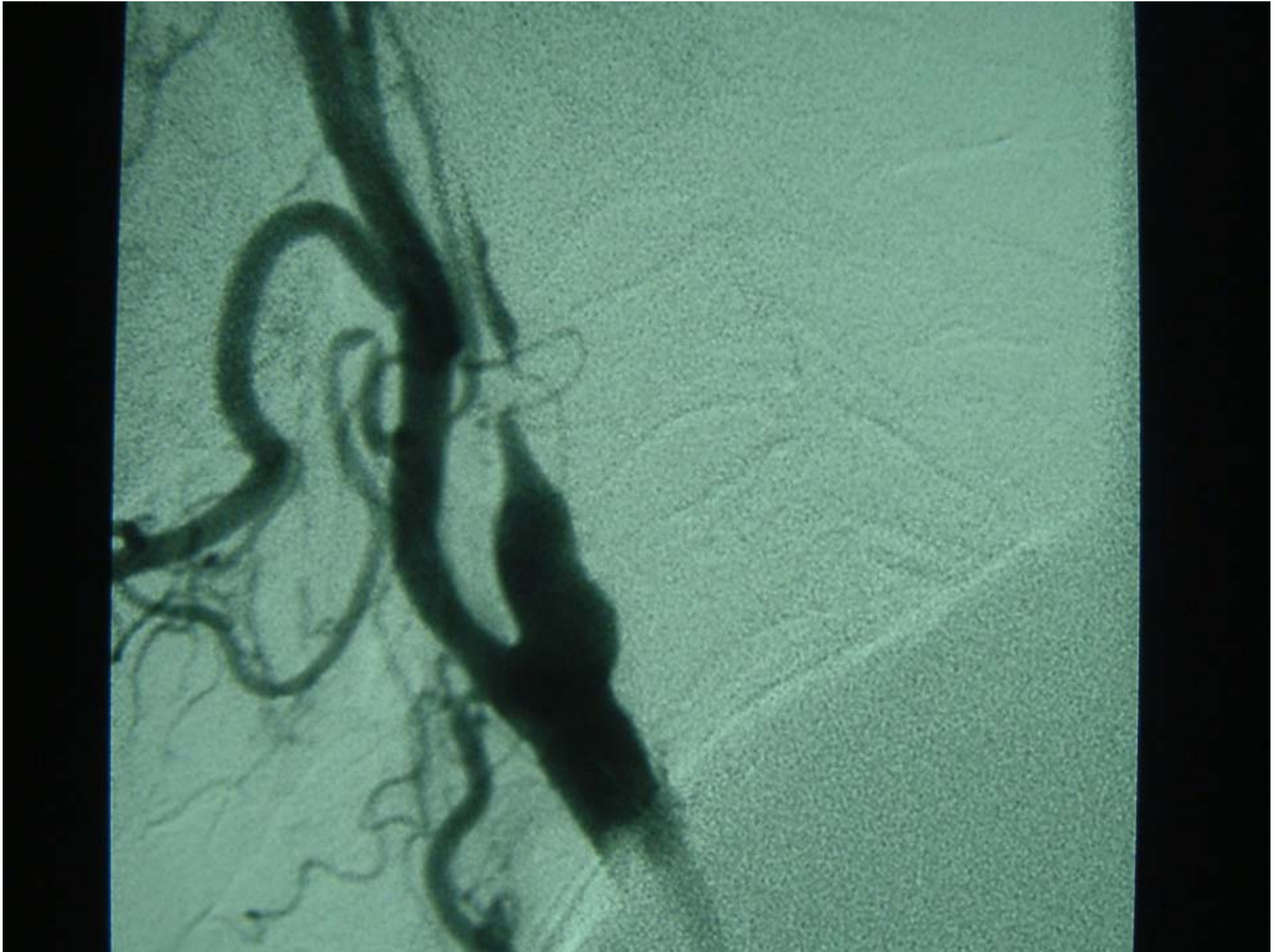
Periprocedural Hemodynamics

- Cerebral Hyperperfusion
- Hypotension
- Bradycardia



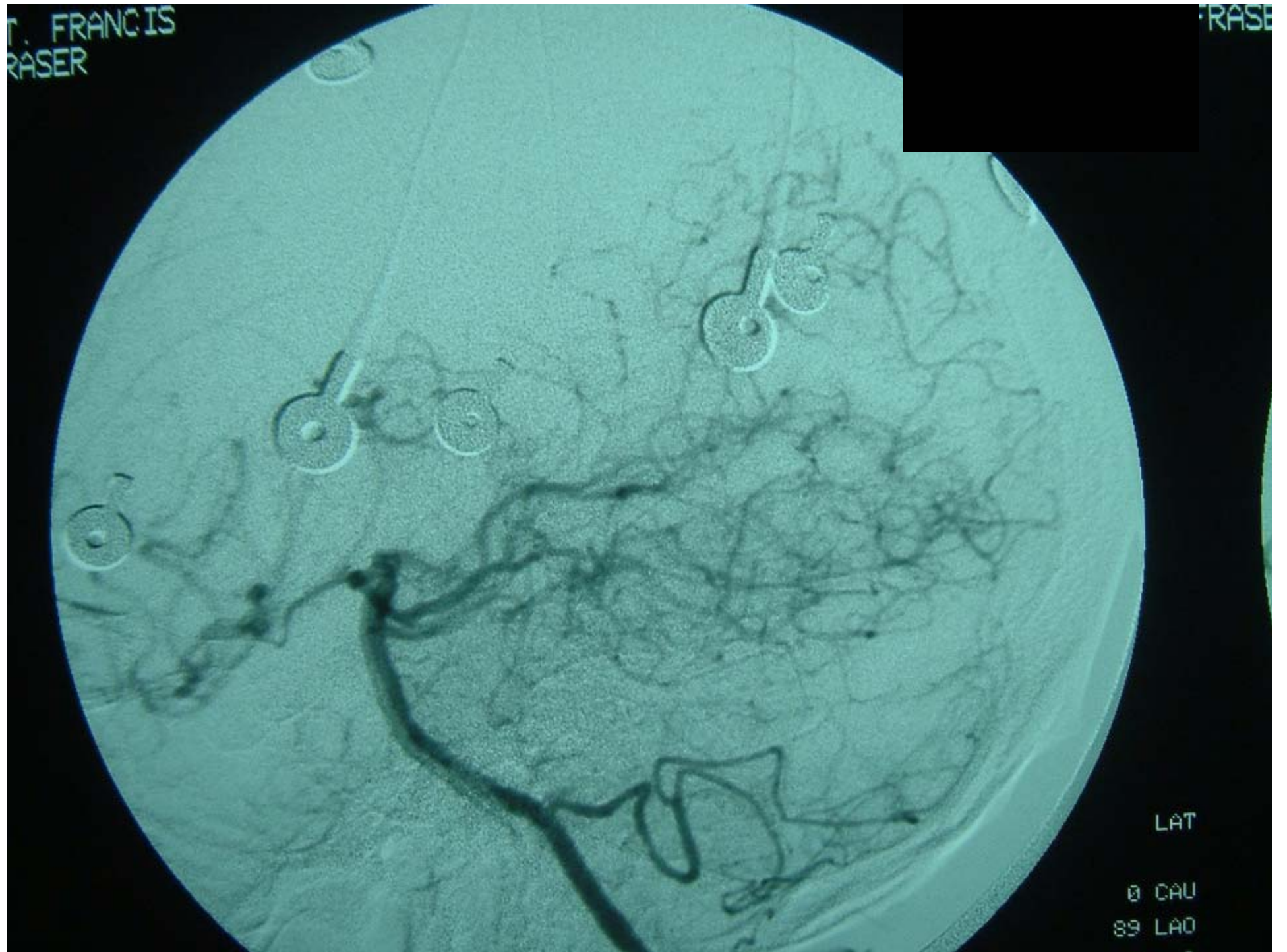
Piepgras, et al: 1988

- 14 (0.6%) of 2362 consecutive CEA patients with ICH
- 9 patients studied with CBF studies showed >100% increase s/p CEA'
- Risk factors: history suggestive of hemodynamic cerebral ischemia, severe carotid stenosis with limited hemispheric collateral flow, and postendarterectomy hyperperfusion, as measured by intraoperative cerebral blood flow.



T. FRANCIS
RASER

RASE



LAT

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89 LAO

Severe carotid stenosis - Impaired cerebral autoregulation

**Increased flow following CEA,
High intracapillary pressure in maximally dilated vessels**

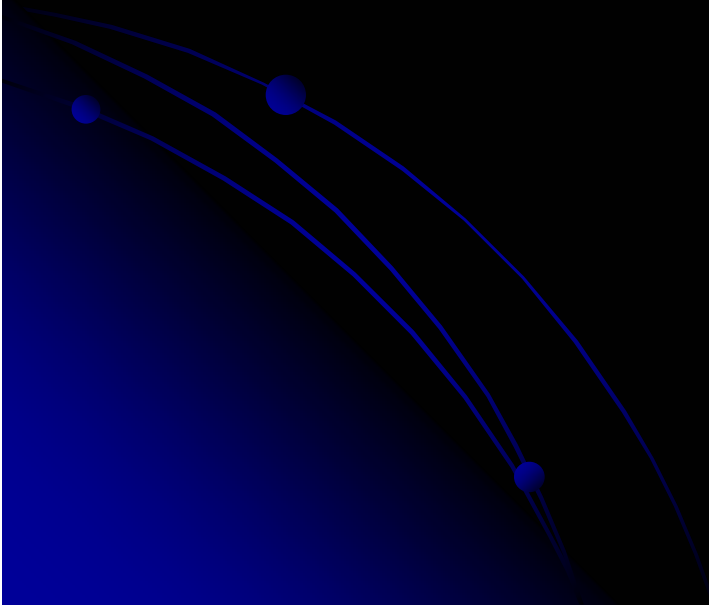
**Disruption of capillary endothelial cells,
Breakdown of BBB,
Edema formation**

anticoagulation

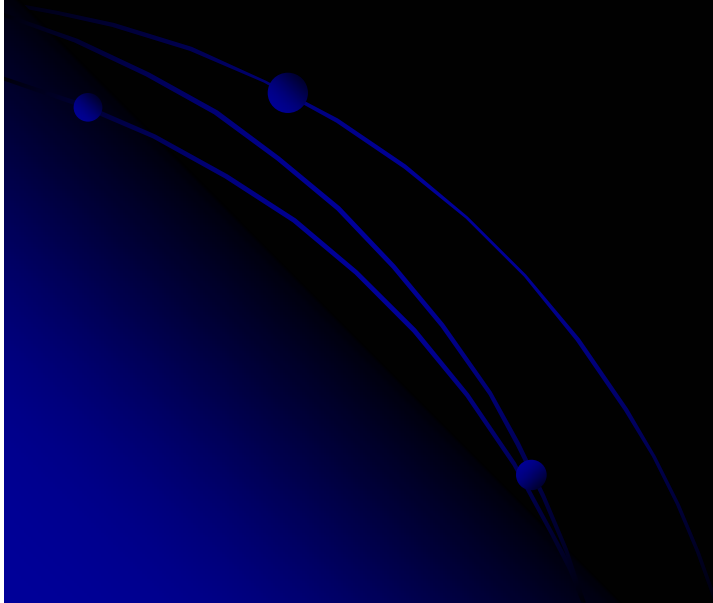
peri-operative ischemic event

Cerebral hemorrhage

Risk factors for Hyperperfusion

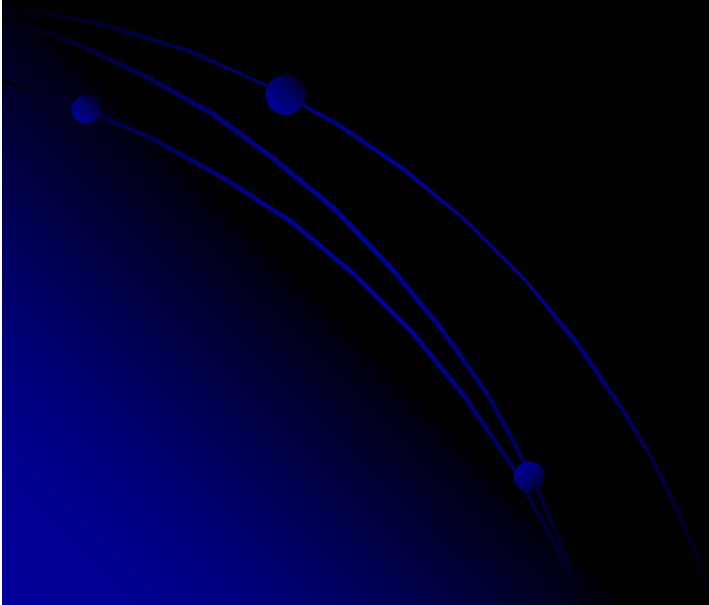
- Age
 - Degree of Stenosis
 - Periprocedural Ischemic Event
 - White Matter Disease (Leukoaraiosis)
- 

Be Aware of Post-procedural
Headache!!!!!!



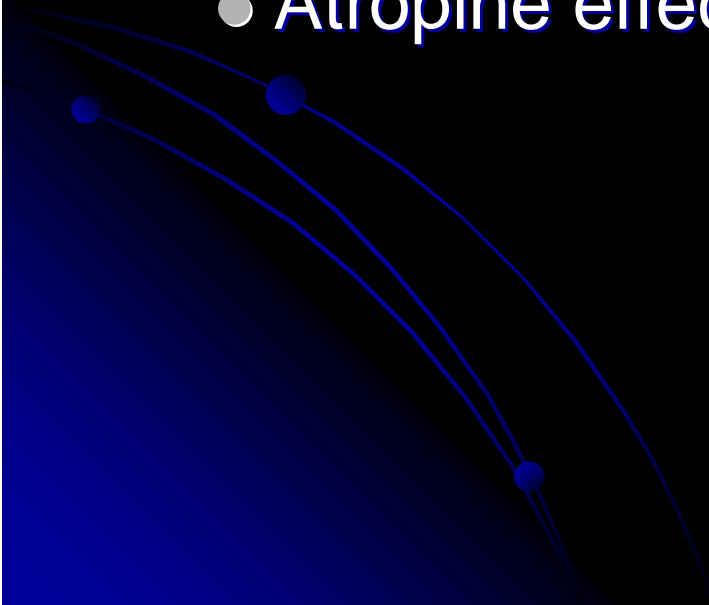
Prevention of Hyperperfusion

- Strict Blood Pressure Control



Periprocedural Bradycardia

- More common with:
 - Calcific lesions
 - Lesions located at the bifurcation
 - More common with balloon-expandable stents
 - Atropine effective in most cases



Hypotension

- Observed in 42 % of procedures
- Required medical treatment in 21%
- Risk factors:
 - Stenosis adjacent to bifurcation
 - Eccentric vs concentric
 - Calcified plaque