

**Initial Experience with the use of
Intravenous Eptifibatide Bolus During
Endovascular Treatment of Intracranial
Aneurysms**

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Background

- **Thromboembolic event rate = 5-20% during coil embolization procedures**
- **Currently heparin is used to avert ischemic complications (ACT 250-300)**
- **Asymptomatic DWI hits noted on MRI in 60% of patients post-coiling**

Purpose

- **To determine the feasibility of the use of GP IIb/IIIa antagonists in the setting of coil embolization**
- **Future goal of studying the safety/efficacy of GP IIb/IIIa antagonists for endovascular treatment of aneurysms**

GP IIb/IIIa Inhibitors

1) Abciximab:

- 50,000 daltons
- High receptor Affinity
- Half life = 12-24 hours

2) Eptifibatide

- 500 daltons
- Low receptor Affinity
- Half-life 2-4 hours

Eptifibatide Versus Abciximab

- **Eptifibatide has theoretical advantages for coiling versus abciximab**
 - **Shorter half-life**
 - **Rapid reversibility with platelets/FFP**
 - **Lower rate of immune response (less antigenic)**
 - **Lower rates of thrombocytopenia**

Methods

- From 8/01-11/04 298 coil embolizations performed
- Eptifibatide used in 84 (28%) procedures – Given as one time bolus
- 74 patients with 79 aneurysms (5 re-treated)
- 32 ruptured aneurysms/47 unruptured

Methods (Cont d)

- **Retrospective review of charts, radiographic imaging to document**
 - **Bleeding events (groin or intracranial)**
 - **Thrombembolic events (Angiographic branch occlusion or CT new infarct)**

Methods (cont d)

- **Reasons for infusion of eptifibatide**
 - 1) **Neuroform Stent Placement**
 - 2) **Broad Neck**
 - 3) **Large aneurysm size**
 - 4) **Re-coil of aneurysm**
 - 5) **Coil prolapse/fracture**

Results

- For 77 of 84 procedures, eptifibatide given prophylactically
- The other 7 patients had evidence of a branch occlusion prior to administration of drug
- The clinical thromboembolic event rate was 1 of 77 patients (1.3%) (10% incidence in a prior study at our center in cohort of 215 patients)

Results

- Overall 5 bleeding complications (5.9%)
- Two patients developed intracranial hemorrhage both were in the ruptured group = 6.3% for ruptured group and 0% unruptured group (4.7% in 215 non integrilin patients)
- Three patients with groin hematomas requiring transfusions

Conclusions

- **Infusion of eptifibatide is feasible for coil embolization of aneurysms**
- **The safety profile appears favorable for unruptured aneurysms, requires study in ruptured aneurysms**
- **Further study needed to determine if thromboembolic rates lowered**

Next Study Underway

- Review patients with ruptured aneurysms who underwent implantation of Neuroform stents, aneurysm embolization, and Integrilin infusion
- N=42