



Determining Factors Which Contribute to Clopidogrel Resistance in Patients Undergoing Endovascular Stent Placement for Unruptured Aneurysm Treatment

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Introduction

Advances in endovascular technology have allowed for the treatment of previously untreatable aneurysms, often with the aid of a stent, which requires dual antiplatelet therapy. Resistance to clopidogrel has been well documented in the cardiology literature but remains controversial in neuroendovascular. The cardiology literature suggests that men and women may have a different response to clopidogrel and that younger women are more likely to be resistant.

Methods

We retrospectively reviewed the charts of 26 patients who underwent placement on a LVIS Jr stent, 17 patients who underwent placement of a pipeline stent and 12 patients who underwent placement of a FRED stent for elective treatment of unruptured aneurysms. The first pretreatment PRU was recorded as well as any additional measurements. A nonresponder was defined as a patient with a PRU>240 on the first assessment. An overresponder was defined as a patient with a PRU<50. The widest interval between PRU measurements was also recorded.

Results

No male patients were found to be nonresponders to clopidogrel compared to 7 females(p=0.32). There was a trend toward higher PRU in females compared to males(153 vs 118, p=0.2). In addition, female patients tended to have a wider fluctuation in PRU compared to male patients(95 versus 61, p=0.36), although not statistically significant. Two ischemic complications and one hemorrhagic complication were noted.

Conclusions

Dual antiplatelet therapy is becoming more common with advances in endovascular technology which allow for placement of stents in smaller vessels. Understanding the variability in response to clopidogrel will be essential in decreasing complications including post-operative ischemic events as well as symptomatic intracranial hemorrhage.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of understand clopidogrel reactivity in the endovascular patient population 2) Discuss several factors which may play a role in determining reactivity and fluctuations in the same patient.

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