PREVALENCE OF HIGH ON-TREATMENT PLATELET REACTIVITY TO ASPIRIN IN PATIENTS WITH PERIPHERAL ARTERY DISEASE (PAD) TREATED WITH PERCUTANEOUS TRANSLUMINAL ANGIOPLASTY (PTA) OF THE ARTERIES OF LOWER LIMBS AND ITS CONSEQUENCES

Michal Juszyński MD, Prof. Grzegorz Madycki MD PhD, Department of Vascular Surgery and Angiology, Centre of Postgraduate Medical Education, Warsaw, Poland

**BACKGROUND**

HIGH ON-TREATMENT PLATELET REACTIVITY TO ASPIRIN IS ASSOCIATED WITH

- increased risk of ischemic events
- other vascular complications

in patients following:

- coronary interventions
- peripheral percutaneous transluminal angioplasty
- other vascular procedures

Patients with PAD following PTA are prone to complications:

- stent thrombosis
- arterial thrombosis
- vascular bypass thrombosis

DESPITE TREATMENT WITH ASPIRIN!

**AIM OF THE STUDY**

to assess platelet responsiveness to aspirin in patients with PAD following PTA of the arteries of lower limbs

**METHODS**

140 patients with PAD undergoing PTA of lower limbs were included
- 29 patients (group 1) were not treated with aspirin therapy prior to the admission - all of them started aspirin treatment on admission
- 111 patients (group 2) were treated with aspirin therapy prior to the admission and the treatment was continued during the study

Two blood samples were collected from each of the patient
- one sample at the day of admission to the hospital
- second sample one week (7 days) after the first blood collection

We assessed platelet activation pathways involving the arachidonic acid receptor (ASPI). ASPI-tests using multiple electrode aggregometry were performed in all blood samples. ‘Low responders’ were patients with an ASPI-test value greater than or equal to 700

**RESULTS**

- ASPI levels in blood samples obtained on the day of admission were between 61 and 1837 (mean 771).
- Among the patients, who started aspirin treatment on the day of admission (group 1) - on the day of admission: ASPI levels were from 244 to 1357 (mean 1002).
- After a week on aspirin treatment, ASPI levels among them were from 33 to 1057 (mean 368).

**CONCLUSIONS**

- High on-treatment platelet reactivity and low platelet response to aspirin in patients with peripheral artery disease following peripheral percutaneous transluminal angioplasty (PTA) of the lower limbs arteries may be the result of their platelet high reactivity in general.
- Greater doses of aspirin or other antiplatelet drugs may be required for these patients to avoid postoperative complications.

**No statistically significant changes in ASPI levels in all patients treated with aspirin therapy prior to the admission [group 2; (no. 111)]**

<table>
<thead>
<tr>
<th>Group</th>
<th>ASPI on the day of admission</th>
<th>ASPI after 7 days of ASA treatment</th>
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<tbody>
<tr>
<td>Group 1</td>
<td>1267</td>
<td>828</td>
</tr>
<tr>
<td>Group 2</td>
<td>1306</td>
<td>856</td>
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<tr>
<td>Group 3</td>
<td>1188</td>
<td>1057</td>
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