Presentation of Acute Limb Ischemia from Methylsergide induced lower extremity arterial vasospasm

Dzianis Budrevich MD, Robert Brown MD, Alex Mallios MD, Kevin Taubman MD

INTRODUCTION

Methylsergide is a commonly used and often effective drug for the treatment and prevention of complex migraine headaches. The mechanism of its therapeutic effect relates to vasoconstriction of the neurovasculature. However, in some cases complications may arise from unpredictable systemic effects manifesting as varying degrees of peripheral arterial insufficiency. We report a rare case of acute lower extremity limb ischemia due to Methylsergide toxicity and brief review of the literature.

CASE REPORT

An eighteen year old female with a history of complicated migraine headaches since early childhood presented the emergency department with 3 days of progressively worsening parasthesias and coolness of her left foot. The patient’s medication history revealed an escalating list of multiple medications directed at the treatment of her headaches including other ergot derivative medications. Methylsergide had been recently added over the last 3 weeks by her neurologist. On the day her limb symptoms began, the dose had been increased to 3 mg twice daily. This was effectively double the starting regimen. At the time of presentation to the hospital, the patient had evidence of advanced limb ischemia with non-tender, no palpable pulses or audible Doppler signals in the distal left lower extremity. Diminished left leg and foot sensory changes were also evident, but no central or peripheral neuromot motor deficits were present. A bedside arterial Doppler ultrasound revealed globally reduced distal flow, but no structural lesions or thrombus were noted. Findings appeared consistent with severe vasoospasm (Fig 1).

RESULTS

The patient was admitted to the cardiovascular intensive care unit (CVICU). Vigorous intravenous fluid hydration was initiated. All headache medications such as the ergot derivatives and the Methylsergide were discontinued. Serial vascular examinations along with serial arterial Duplex imaging were performed over the next 72 hours. With expectant management, the patient began to demonstrate improvement within less than 24 hours. Complete recovery and restoration of normal blood flow was present with 48 hours. This included normal capillary refill, palpable distal pedal and posterior tibial pulses; as well as, triphasic flow by spectral waveform Doppler. (Fig 2) Parasthesias resolved by 72 hours.

Doppler ultrasound results before and after treatment (blood flow velocity cm/sec):

<table>
<thead>
<tr>
<th></th>
<th>CFA</th>
<th>SFA</th>
<th>MID</th>
<th>DIS</th>
<th>SFA</th>
<th>POP</th>
<th>PTA</th>
<th>ATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>At admission</td>
<td>164</td>
<td>149</td>
<td>136</td>
<td>330</td>
<td>106</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>3 days after discontinuation of Methylsergide</td>
<td>249</td>
<td>176</td>
<td>176</td>
<td>199</td>
<td>179</td>
<td>197</td>
<td>183</td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSION

Methylsergide is a common medication utilized in the treatment of migraine headaches. Although the medications side effects are well characterized and may include peripheral vasoconstriction, this may be overlooked due to an overall low incidence. An awareness of this complication is exceedingly important to avoid potential limb threatening process. The primary initial treatment of ergotamine induced vasospasm is discontinuation of the drug and hydration. In progressive and unresponsive cases, more aggressive treatments have been reported and may include a number of possibilities such as, sympatholytics via a peripherul catheter, heparin infusion, calcium channel blockers and prostaglandins. However, unless necrosis or gangrene is imminent, invasive therapy is usually unnecessary.

BIBLIOGRAPHY