Our medical treatment protocol for symptomatic distal ulnar artery occlusion
U YETKIN, B OZPAK, T GOKTOGAN, I YUREKLI, A GURBUZ

Citation

Abstract
Arterial occlusive disease of the upper extremity is a rare entity. In this study, we report our medical treatment protocol for symptomatic distal ulnar artery occlusion.

INTRODUCTION
The vascular patterns of the palmar arches and their interconnecting branches present a complex and challenging area. Improvements in microsurgical techniques have made a better understanding of vascular patterns and vessel diameters more important (1).

CASE PRESENTATION
Our case was a 72-year-old male. He was suffering from pain in the left hand and discoloration and coldness of the tips of 3\textsuperscript{rd}, 4\textsuperscript{th} and 5\textsuperscript{th} digits for one month. Physical examination revealed no ulceration of this non-dominant hand (Figures 1&2). Only the left ulnar arterial pulse was detectable with sonic Doppler device and the remaining pulses were easily palpable. Clinical examination shows a positive Allen test for ulnar artery occlusion.
His past medical history was significant for Type 2 Diabetes Mellitus for 8 years that was regulated with oral antidiabetic agents. He also was an ex-smoker who quit smoking 10 years ago. Selective left upper extremity DSA revealed patent left subclavian-axillary-brachial- and radial arteries (Figures 3&4).

Ulnar artery was occluded at distal segment. Moreover, palmar arch was invisible and metacarpal arteries were occluded at multiple levels (Figures 5&6).
Arterial occlusive disease of the upper extremity is most often due to posttraumatic occlusion of the ulnar artery. An embolic source of the ischemia should be considered most strongly when sudden ischemia or vasospasm is associated with atrial fibrillation or follows a myocardial infarction. Connective tissue disorders and several arteridities are infrequent causes of upper-extremity occlusive disease (2).

Because damage to either the radial or the ulnar artery in the form of laceration or thrombosis can occur with no or minimal symptoms due to adequate collateral circulation, the prevalence of asymptomatic occlusions is unknown (3). Increased sympathetic tone from reflex vasospasm in the face of otherwise adequate collateral vessels may decrease perfusion sufficiently to cause ischemic symptoms and signs(3,4).

Isolated ulnar artery occlusion is seldom the cause of digital tip necrosis (3). Only 5% of normal subjects had ulnar artery dominance in all digits(5).

Arteriography still remains the reference standard for the evaluation of vascular insufficiency (3). Arteriography can be useful in the identification of upper extremity emboli and their source, and should include studies of the aortic arch, proximal subclavian artery, and digital arteries (6).

Taking these findings into account, our medical treatment strategy was as follows:

**DISCUSSION**

<table>
<thead>
<tr>
<th>Administered drug</th>
<th>Dose (per day)</th>
<th>Duration of treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cilostazol 100mg</td>
<td>2x1</td>
<td>6 months</td>
</tr>
<tr>
<td>Clopidogrel 75mg</td>
<td>1x1</td>
<td>Continuous</td>
</tr>
<tr>
<td>Pentoxifyline 600mg</td>
<td>2x1</td>
<td>Continuous</td>
</tr>
<tr>
<td>Dextran 4500mg+Heparin 50mg</td>
<td>1x2</td>
<td>6 months</td>
</tr>
<tr>
<td>Nifedipine 30mg</td>
<td>1x1</td>
<td>6 months</td>
</tr>
<tr>
<td>Labetalol 250mg+pyridoxin 250mg +VitB12 1mg</td>
<td>2x1</td>
<td>6 months</td>
</tr>
</tbody>
</table>

He completed the late period after the onset of therapy with this ambulatory treatment protocol. His complaints of pain and discoloration completely faded away. His sensorimotor neurological status is normal.

**References**

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