Increased Intima-Media Thickness of Common Femoral Vein in Behçet’s Disease: A Sign of Full Layer Venous Wall Inflammation

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Introduction

- In vascular involvement of Behçet’s Disease (BD), inflammatory cells infiltrate mainly the adventitia and media, but only a few inflammatory cells were shown in the intima layer during active arteritis.¹
- We recently showed that increased common femoral vein (CFV) thickness is a distinctive feature of BD with a specificity higher than 80% for the cut-off value of ≥ 0.5 mm.²
- In this study, we aim to investigate the localization of inflammation in vein wall in BD patients by measuring both whole wall thickness and the intima-media thickness (IMT) of CFV.

Methods

- Patients with BD (n=42) and age- and sex-matched healthy controls (HC) (n=35) were included in the study.
- Demographic and clinical characteristics of the patients were recorded from the patient files.
- Bilateral IMT and venous wall thickness of CFV were measured with Doppler ultrasonography by an experienced radiologist.

Results

- The mean age was 39.8 ± 10.0 years in BD patients and 36.8 ± 7.9 years in HC.
- 64.2% of BD patients and 60.0% of HC were male.
- The median(IQR) disease duration of BD patients was 72.0(134.0) months.
- 61.9% of BD patients had major organ involvement.
  - The most common major organ involvement was vascular (57.7%) followed by ocular (34.6%), and neurological (7.7%) involvement.
  - Most (66.7%) BD patients were using immunosuppressive treatment.

- Both CFV-R and CFV-L wall thicknesses were significantly higher in BD patients than HC (p<0.001).
- Both IMT-R and IMT-L were significantly higher in BD patients than HC (p<0.001).
- The measurements of IMT and venous wall thickness of CFV were shown in Table 1.

Conclusions

- Intima-media thickness of CFV, as well as CFV wall thickness, is significantly increased in BD patients than HC.
- Our results suggest that there is a full layer venous wall inflammation including intima-media layer in BD independent of vascular involvement.

Table 1. The measurements of intima-media and venous wall thickness of common femoral vein

<table>
<thead>
<tr>
<th></th>
<th>Behçet’s disease</th>
<th>Healthy controls</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right CFV wall thickness, mm, (mean±sd)</td>
<td>0.74 ± 0.18</td>
<td>0.18 ± 0.04</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Left CFV wall thickness, mm, (mean±sd)</td>
<td>0.74 ± 0.19</td>
<td>0.19 ± 0.05</td>
<td>&lt;0.001</td>
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<tr>
<td>Right IMT of CFV, mm, (mean±sd)</td>
<td>0.32 ± 0.17</td>
<td>0.10 ± 0.01</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Left IMT of CFV, mm, (mean±sd)</td>
<td>0.34 ± 0.17</td>
<td>0.10 ± 0.01</td>
<td>&lt;0.001</td>
</tr>
</tbody>
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