When analyzing exclusively the renal arteries a higher exit angle of the stent in the transversal plane (91.87° ± 24.6° vs 62.13° ± 52.1°, \( p = 0.041 \)) was related with thrombosis. Moreover, an exit angle of the stent in the coronal plane under 61° has a NPV of 100% (\( p = 0.001 \)).

The rate free from type III endoleak and thrombosis at 24 months were 87% and 91%, respectively.

**Conclusion:** Type III endoleak is mostly associated with visceral arteries, while branch thrombosis is related to renal arteries. To avoid thrombosis, the stent oversize should fall behind 15% and the transversal exit angle of the stent should not exceed 61°. Longer stents should be considered rather than using more than one, to avoid endoleak.

**Disclosure:** Nothing to disclose.

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**O-048 The Results and Rationale of Tevar Procedure for Type B Intramural Hematoma of Aorta**

**Thoraco-abdominal Aortic Disease**

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**Introduction:** Aortic intramural hematoma (IMH) is one of the major acute aortic syndromes with potential lethal complications. The one involving aorta distal to innominate artery is referred to Type B IMH (BIMH) and is now mainly treated medically under careful surveillance and repetitive computing tomography (CT) follow-up[1]. For complicated IMH, it means relapsed chest pain, periaortic hemorrhage, presence of intimal disruption, or enlarging IMH, and is recommended to undergo invasive intervention [1][2]. We aim to analyze the effectiveness and outcome of thoracic endovascular aortic repair (TEVAR) as primary management of BIMH patients with variable indications in our hospital and attempt to establish rationale accordingly.

**Methods:** From January 2015 to July 2018, 41 complicated BIMH patients treated with TEVAR were retrospectively reviewed. Initial CT images focusing on aorta diameter, IMH thickness, and intimal disruption along with surgeons’ and peer reviewer’s indication were presented. Procedure details, postoperative results including mortality, complication, and re-intervention events, the remodeling of aorta, and occurrence of new ulcer like projection (ULP) or intramural blood pool (IBP) during follow-up were recorded as outcome.

**Results:** Among 41 patients, one had aorta maximal diameter >55mm, 87.8% had IMH thickness >1cm, 17.1% had intimal disruption depth >1cm, and only 7.3% met indication for classic penetrating aortic ulcer (PAU) standard (>2cm width and >1cm depth), whereas surgeons’ recorded 58.5% of IMH with PAU as operative indication. IBP could be found in 51.2% patients [Table1]. There was one...
technique failure due to critical aorto-iliac occlusive disease. Mean 2.1 aortic stents were deployed, most were proximal Zone 3 and distal T9th landing; furthermore, 8 Chimneys, 2 coil emboli and 1 ex vivo fenestration to left subclavian artery were applied. Patients were discharged on post-op day 2-95 (mean 8.3). Nine patients were lost to follow-up. There was 0 early-mortality and 7 all cause late-mortality (17.1%). One was aorta-related. Early complications rate was 26.8%, including iliac occlusion, brain emboli, progressive paraplegia, pneumonia etc. Late complications rate was 31.7%, including proximal/distal stent-induced new entries, new ULPs and abdominal aortic aneurysm rupture etc. Re-intervention rate was 7.5%, mostly procedure-related (4/6). 84.4% had healing of target segment. 53.1% had complete thrombosis of native aorta. Up to 37.5% follow-up patients developed new ULPs or IBPs [Fig1].

**Conclusion:** The diagnosis of PAU is not standardized, for a large portion of patients with small and shallow ULPs/IBPs or tiny intimal disruption (TID) were treated as IMH with PAU. As for the procedure itself, TEVAR towards complicated BIMH is effective in eradicating intimal tears and preventing aortic related death but carries relatively high procedure-related complications. Besides, high incidence of new ULPs/IBPs in other aortic segments with uncertain causation makes the initial intention questionable.

**Disclosure:** Nothing to disclose

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**O-049 Blood Flow Helicity Pattern in Type III Arch Configuration as a Potential Risk Factor for Type B Aortic Dissection**

**Thoraco-abdominal Aortic Disease**

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**Introduction:** Abnormal helical flow in the aortic arch has been proposed as a causative factor for aortic dilatation (1), for the formation of entry tears and consequent development of aortic dissections (AD) (2). Blood flow helicity rearrangements can be caused by the presence of a bicuspid aortic valve, but are also related to aortic arch morphology (3), and in particular to the presence of arch elongation and severe tortuosity (2). Previous studies showed that patients with Type B AD present a high prevalence of Type III arch configuration, which comprises recognized anatomic

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**Table 1. ULP/TID/IBP lesions in type B IMH**

<table>
<thead>
<tr>
<th>Classification (PAU ULP TID IBP)</th>
<th>Width</th>
<th>Depth</th>
<th>Number of Pt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Deep (LD)/ PAU</td>
<td>&gt;2cm</td>
<td>&gt;1cm</td>
<td>3</td>
</tr>
<tr>
<td>Large Shallow (LS)</td>
<td>&gt;2cm</td>
<td>&lt;1cm</td>
<td>5</td>
</tr>
<tr>
<td>Medium Deep (MD)</td>
<td>1-2cm</td>
<td>&gt;1cm</td>
<td>1</td>
</tr>
<tr>
<td>Medium Shallow (MS)</td>
<td>1-2cm</td>
<td>&lt;1cm</td>
<td>7</td>
</tr>
<tr>
<td>Small Deep (SD)</td>
<td>&lt;1cm</td>
<td>&gt;1cm</td>
<td>3</td>
</tr>
<tr>
<td>Small Shallow (SS)</td>
<td>&lt;1cm</td>
<td>&lt;1cm</td>
<td>7</td>
</tr>
<tr>
<td>Tiny Intimal Disruption (TID)</td>
<td>&lt;0.3cm</td>
<td>&lt;1cm</td>
<td>5</td>
</tr>
<tr>
<td>Intramural Blood Pool (IBP)</td>
<td>x</td>
<td>x</td>
<td>21</td>
</tr>
</tbody>
</table>

**Figure 1.** New ULPs/IBPs development after TEVAR