

## **Transcatheter Treatment of Middle Aortic Syndrome (MAS) with Bare and Covered Stent Implantations**

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**Introduction:** Middle aortic syndrome (MAS) is an uncommon cause of arterial hypertension in children and young adults characterized by long segment narrowing of the distal thoracic and/or abdominal aorta. Stenosis of the abdominal aorta may be associated with stenoses of renal and visceral arteries. **Method:** Between 2012 and 2015, six patients underwent stent implantation for the treatment of with MAS. In patients with severe sub-atretic stenosis, predilation with smaller sized balloons was required before stent implantations. Balloon size that stents will mount was selected according the diameter of distal aorta (1-2 mm smaller). When first stent does not cover the lesion completely additional stents were implanted by telescopic method. If the lesion is close to the critical vessels bare stents if not covered stents were implanted. After implantation further dilation was performed to optimum size in the same session or subsequent session.

**Results:** Median age was 15.5 years (8–22 years). None had inflammatory signs of Takayasu arteritis but one had neurofibromatosis and the other had Williams syndrome. Length of the stenosis varied between 19 mm and 105 mm (median 64 ) and median diameter of the lesion was 3.3 mm (1.5-5.4). Aortic narrowing was isolated in five and coexisted with left renal artery stenosis in one. 4 covered stents were required for long segment subatretic lesion in one, two stents in three and single in two. Covered stents were used in two , both bare and covered stents in one and only bare stents in tree. One had two intervention stages; cutting balloon suboptimal dilation in the first session than bare stents was implanted in the second. Balloon angioplasty for unilateral renal artery stenosis was performed in patient with neurofibromatosis. There was no procedural complication. Redilation was needed due to suboptimal dilation in the first session in one and antihypertensive medication was continued in all.

**Conclusion:** Transcatheter treatment of long segment middle aortic syndrome is an effective and safe option with excellent results. It improves both vessel diameter and pressure gradient by using multiple stents with telescopic method. Staged dilation may be preferred in some situations.