

## TRANSCATHETER MANAGEMENT OF COARCTATION OF AORTA : A NEW ERA

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Coarctation of aorta is typically a discrete narrowing of the thoracic aorta just distal to the left subclavian artery. Management of coarctation of aorta depends upon age, clinical presentation, type of coarctation, associated arch hypoplasia and associated other congenital heart disease as ventricular septal defect. Treatment consists of surgical or percutaneous removal of the obstruction and presents excellent immediate results but significant residual problems often persists. Transcatheter treatments for coarctation of the aorta include balloon angioplasty and stent implantation<sup>1-3</sup>. However, balloon angioplasty has its limitations and may be associated with complications, such as, re-coarctation, dissection, and aneurysm formation, particularly in adult patients. Bare metal stent implantation has offered an alternative during the last decade but covered stents have been used with increasing frequency more recently, to the extent that covered stent implantation is the preferred treatment in correctly selected patients. Primary stent implantation, whether bare metal or covered, prevents elastic recoil of the aorta and may provide better and more predictable results than balloon angioplasty. Furthermore, stents are preferable for the treatment of complex aortic arch obstructions, but their usage is limited to older patients, because of limitations associated with growth<sup>4</sup>. Despite the increasing use of stents for interventional treatment of coarctation of the aorta in larger patients, use of large stents is controversial in small children. But in a recently published series of sixty patients the authors concluded that there were no significant complications in stent deployment in patients under 30 kg. So, as in larger patients, use of large stents for treatment of coarctation of aorta in small children is effective and safe in short term. In these patients, redilatation will be required and follow-up is ongoing<sup>5</sup>.

This issue of JAFMC highlights coarctation of aorta managed by balloon angioplasty. Here Begum NNF analyzed her series of 50 patients with coarctation of aorta who underwent balloon angioplasty. This single centre series also includes 5 patients with post surgical re-coarctation. No complication was observed during and after procedure in this group of patients. Though there is no mention about specific follow-up time, the short term results appear excellent. The procedure of balloon angioplasty for coarctation of aorta is fraught with some

inherent complications like aortic aneurysm formation. But in the series reported by Begum NNF no such complication was documented. But in a recently published series 24% patients treated with balloon angioplasty for coarctation of aorta developed aortic aneurysm<sup>6</sup>.

Cutting balloon angioplasty has emerged as a new technique in the treatment of coarctation of aorta. From the early experience of cutting balloon technique the authors opined that this procedure is acutely safe and can be effective in the management of recalcitrant coarctation lesions in young<sup>7</sup>. Management of coarctation of aorta in young poses therapeutic challenges and there is no consensus among medical profession regarding a management plan. Much can be argued about the benefits, limitations, and/ or complications of transcatheter versus surgical intervention in such cases. Occasionally, the complexity of the lesions limits management options. Therefore, each patient requires individual management decision because there is no one therapeutic plan that satisfies all patients.

### References

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