• Coarctation of the aorta may seem to be a relatively simple lesion, but controversy persists about the optimal management strategy.

• A plethora of options are available, and strong evidence to guide clinical decision making is lacking.

• The age of the patient at presentation and anatomic variations have a significant effect on the type of therapy.

• The current trend in practice is to favor surgical repair in neonates and infants, transcatheter balloon dilation in older children and stenting in adults.
• The current trend in practice is to favor **Surgical repair** rather than **Trans-Catheter intervention**
  • Re-Coarctation
  • Femoral Artery Damage

**Infants, Neonates**

**Palliative Stenting**
Children

Native       Or       Re-Coarctation

Dissection
Acute rupture
Chronic Aneurysm

Adults
The Rationale for Stent Implantation

- Over-dilation of the coarctation segment is unnecessary, thus avoiding major transmural tears.

- The stent struts will splint any smaller tears against the aortic wall, preventing progressive dissection and aneurysm formation.

- The acute elastic recoil of the coarctation segment, which contributes to a suboptimal initial result and late recoarctation, is prevented by stent implantation, leading to a greater relief of obstruction than with balloon dilation alone.

COA Stenting: History

I. Palmaz stents 30 8 18 8 (Johnson & Johnson Interventional Systems Co.)
   - XLD Palmaz stents 31 10 –50 10
   - The Palmaz Genesis stent (Cordis/ Johnson & Johnson Interventional Systems Co)
   - XLD Palmaz Genesis

II. The Intrastent (IT) double strut
   - Mega LD
   - Max LD

III. Cheatham-Platinum (CP) Stent (NuMed, Hopkinton, NY)
The Palmaz Genesis stent

Flex segment technology allows for better negotiation of curves while maintaining radial strength

Pre-stenting

AO: COARC.
Technique for Stenting
Immediate Results

Angiography
Pressure Gradient

Late Follow Up

Aspirin 6 mo.
Anticoagulants!! No
Hypertension
MCTA
Conclusion

Coarctation management:

It is not a competition but it is a major burden to choose the right approach for the specific patient, whether surgery, balloon or stent. Each of these modalities have a role for a specific patient. The patient's age, weight, history of surgery influences in great deal the management strategy.