A STANDARDISED PROTOCOL FOR CONTEMPORARY ROTATIONAL AThERECTOMY FROM DEBULKING TO PLAQUE MODIFICATION

Highly experienced European ROTABLATOR® operators developed a standardised protocol on the role of RA in an era of increasing complexity, calciﬁcation which moves ROTABLATOR® from debulking to plaque modiﬁcation.

PRE-FRUCEDICAL RECOMMENDATIONS

1. GUIDE CATHETER SELECTION
   - Most procedures can be performed with a 6F guide catheter
   - Always perform a guide catheter pullback to ensure proper func-
tional length of the guide catheter
   - 0.035” wire brush in the side branch
   - Can be used in combination with RA

2. BURR SELECTION
   - A single, small burr (1.25 or 1.50 mm) works for the majority of lesions
   - Position “L” of the burr is sufﬁcient
   - Operate always a burr with the device delivery system through RA to avoid occlusion

3. PACING CONSIDERATIONS
   - Positioning a temporary pacemaker is recommended when treating the high risk lesions at the left main

4. GUIDEWIRE SELECTION
   - Most guidewires can be performed after RA to facilitate passage of the guide wire
   - A smaller-caliber guide wire can be used for RA to ensure proper function

5. ABATION SPEED
   - Between 135,000 and 180,000 rpm

6. RUN TIME
   - Short duration: individual runs should be no longer than 30 seconds

7. DECELERATION
   - Should be < 5,000 RPM

8. BURRING TECHNIQUE
   - A pecking motion, a quick gentle push forward/pull-back movement of the burr should be used to minimize deceleration

9. ROTABLATION FLUSH
   - Infusion is important to cool rotablator and flush circulation from debris

10. DECONSTRUCTION
   - Stopping RA if severe dissection is identiﬁed

11. DISSECTION
   - Staying the distance between vessels is identiﬁed

12. SLOW-FLOW
   - Optimise blood pressure if low and use flush cocktail

13. UNPROTECTED LEFT MAIN STENOSIS
   - When using, always consider the RA speed

14. UNDEREXPANDED STENTS
   - Rotablation is a high-risk procedure for underexpanded stents

TECHNIQUES TO AVOID COMPLICATIONS

15. BURR ENTRAPMENT
   - Controlled push & pull on the rotablation shaft
   - Position a 2nd wire to allow for balloon placement
   - Consider use of Guidezilla to help dislodge burr

16. PERFORATION
   - Rotawire tip distal should be in the distal part of the main vessel, avoiding the small side branches

17. SPECIFIC RECOMMENDATIONS FOR ROTATIONAL AThERECTOMY

18. INITIAL LESIONS
   - The Rotational atherectomy plaque modiﬁcation and stent procedures
   - RA can help facilitate full stent expansion

19. UNPROTECTED LEFT MAIN STENOSIS
   - RA can improve plaque modiﬁcation and stent implantation

CONCLUSIONS: CONTEMPORARY ROTATIONAL AThERECTOMY

The contemporary objective of rotational atherectomy is plaque modiﬁcation. Traditionally, it was a debulking tool. Now, it modiﬁes the plaque and its features. It is enough to smooth the vessel lumina for optimal balloon expansion and stent implantation.

The technique of a smaller burr and a smaller guide wire has been improving outcomes

For more information on the RA protocol, please see the reference in the text.