AORTIC ROOT REMODELING IN REPAIR OF BICUSPID AORTIC VALVE

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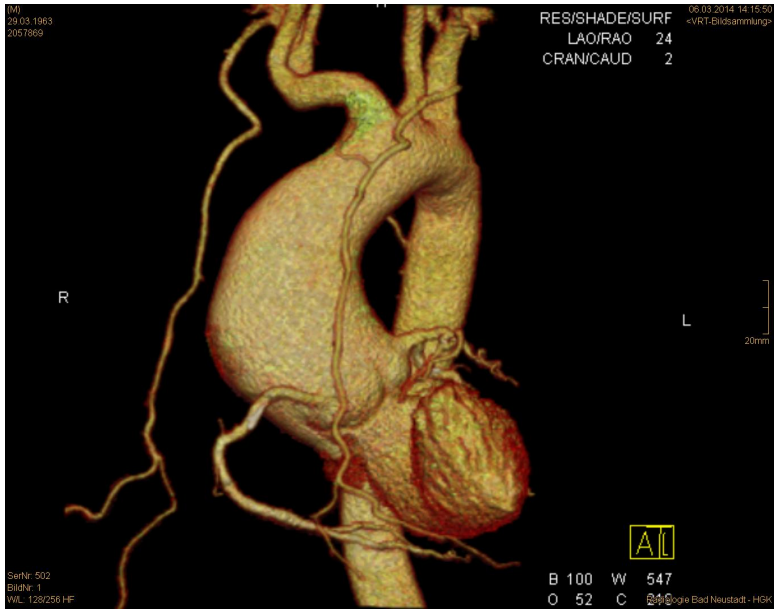
Disclosure

I have nothing to disclose in regard to commercial support

Scenario 1a: Large aortic root (aneurysm?) without AI

Surgery consists of root remodeling (selective sinus repair) without change of pre-existing root anatomy

Preoperative



Postoperative

51 year-old male with aortic root diameter of about 5 cm (ascending aorta: 6 cm) but no insufficiency of a bicuspid valve (symmetrical commissural orientation)

Scenario 1b: Aortic root dissection without AI or with dissection-related AI

Surgery consists of root remodeling (selective sinus repair) without change of pre-existing root anatomy

Preoperative

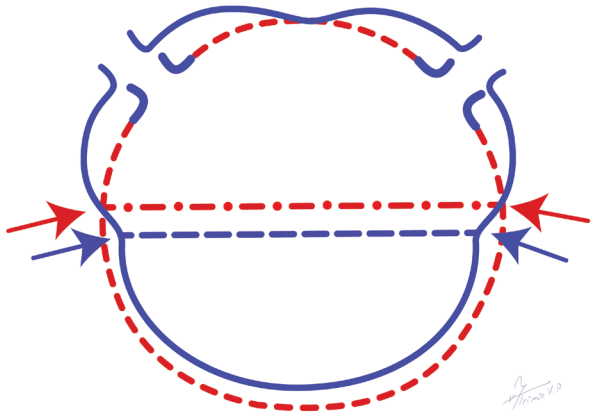
After 8 years

42 year-old male with aortic root diameter of about 5 cm and root-related AI (dissection)

Scenario 2a and 2b: Aortic insufficiency with dilated or normal aortic root

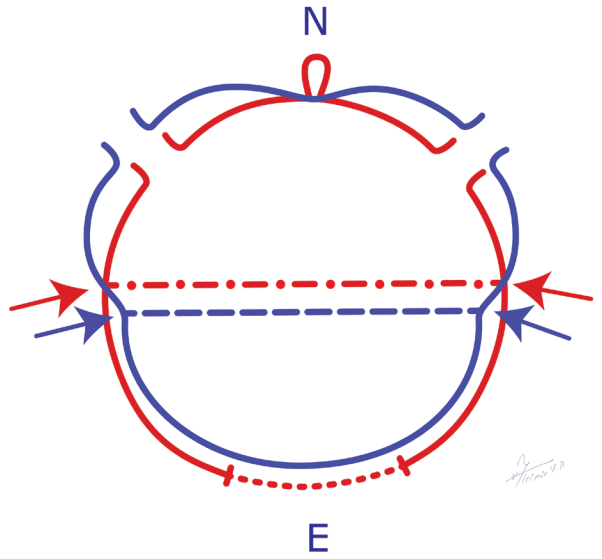
Surgery consists of leaflet repair and complete or partial root remodeling (selective sinus repair) aiming for symmetrical commissural orientation

2a



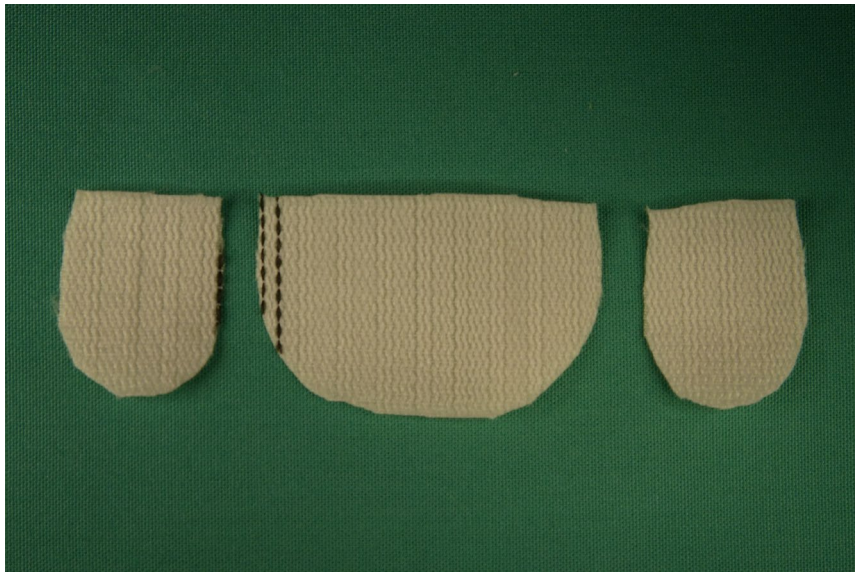
Surgery consists of leaflet repair and root remodeling (sinus enlargement and narrowing of the opposite side) aiming for symmetrical commissural orientation

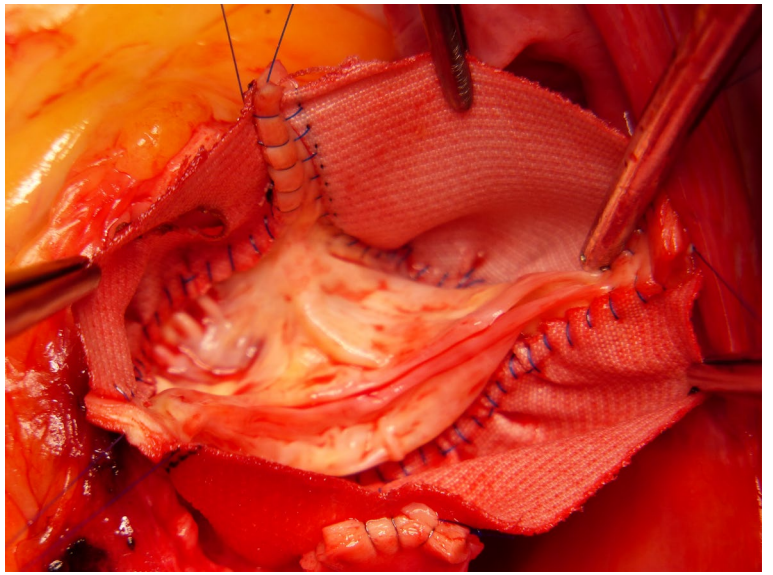
2b



Selective sinus repair for anatomical restoration of the aortic root

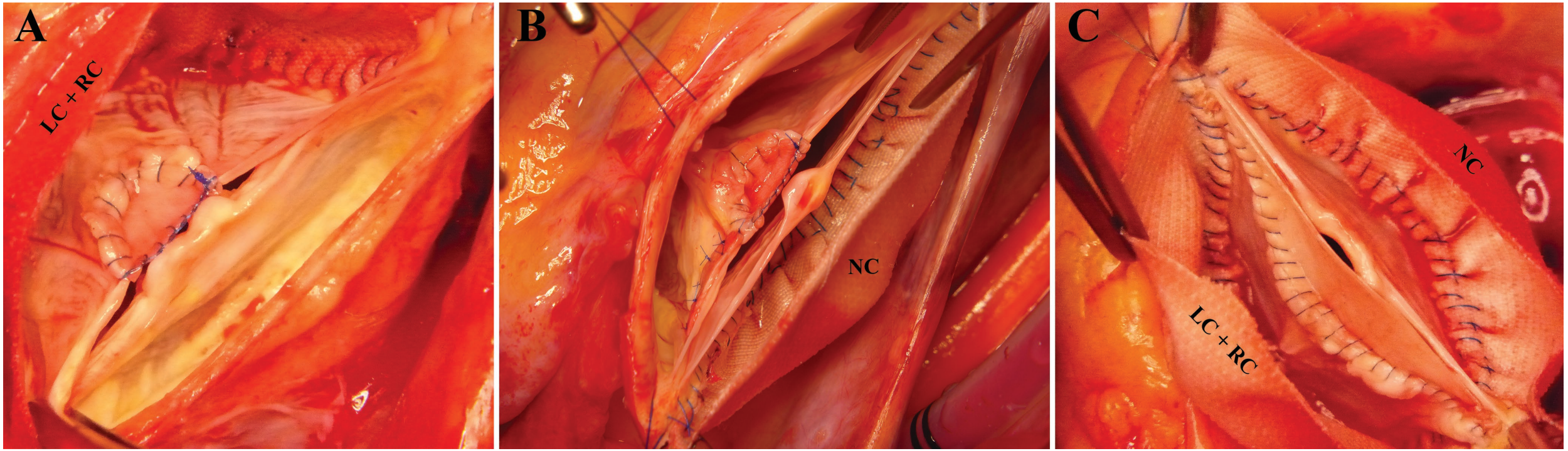
Preparation of neo-sinuses for aortic root remodeling





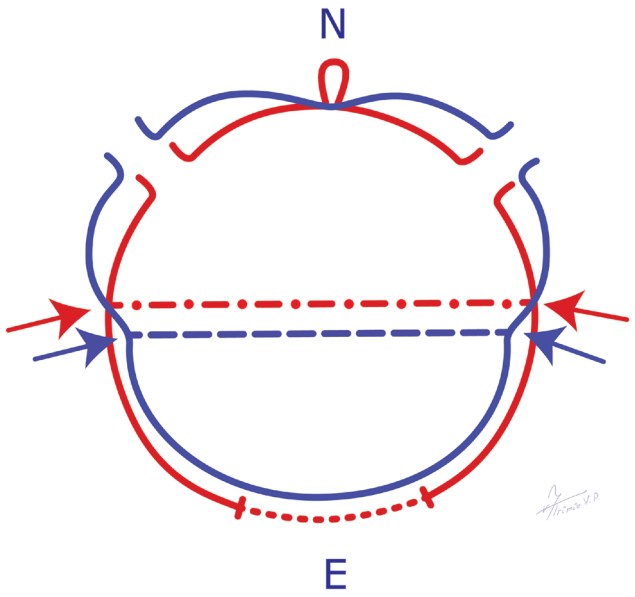
Scenario 2a: Aortic insufficiency with dilated aortic root

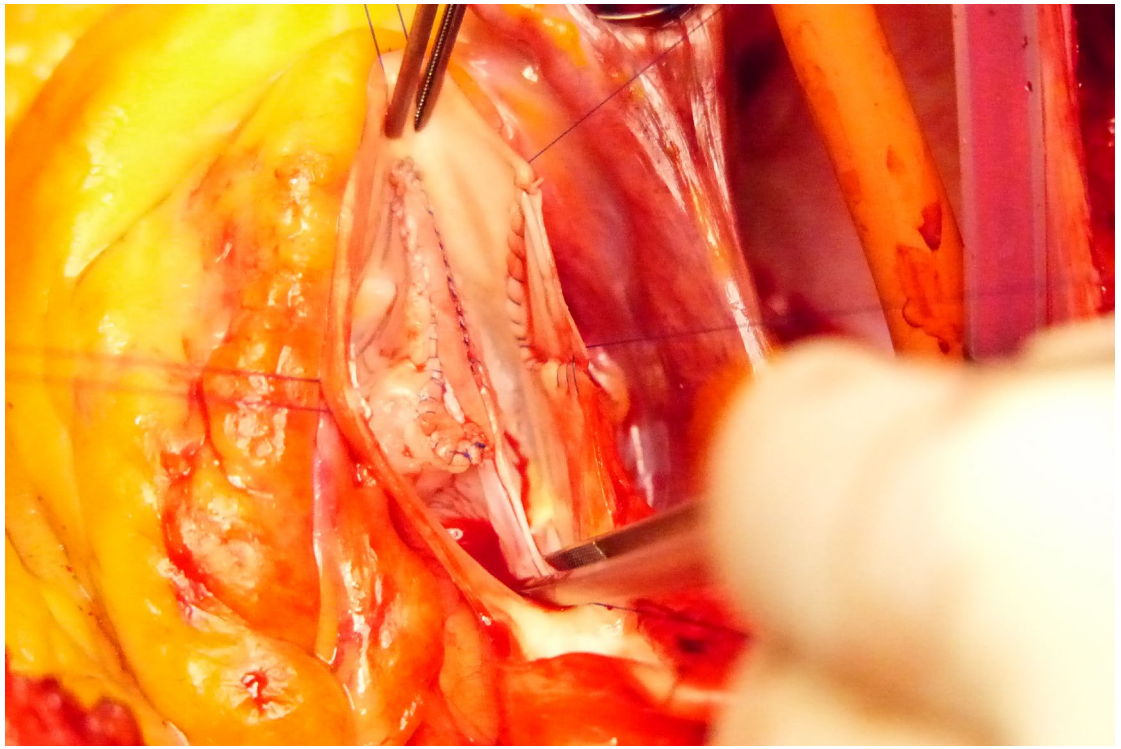
Surgery consists of leaflet repair and complete or partial root remodeling (selective sinus repair) aiming for symmetrical commissural orientation



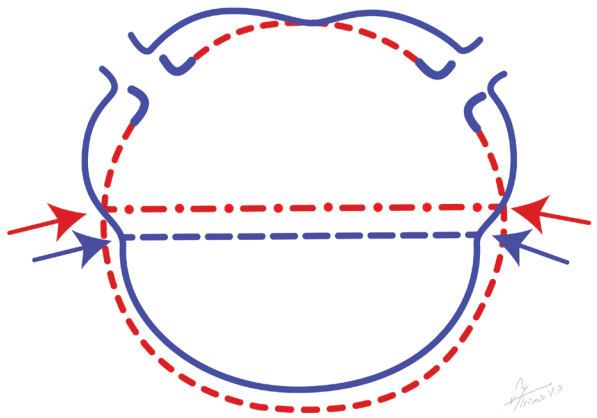
Scenario 2b: Aortic insufficiency with nearly normal aortic root

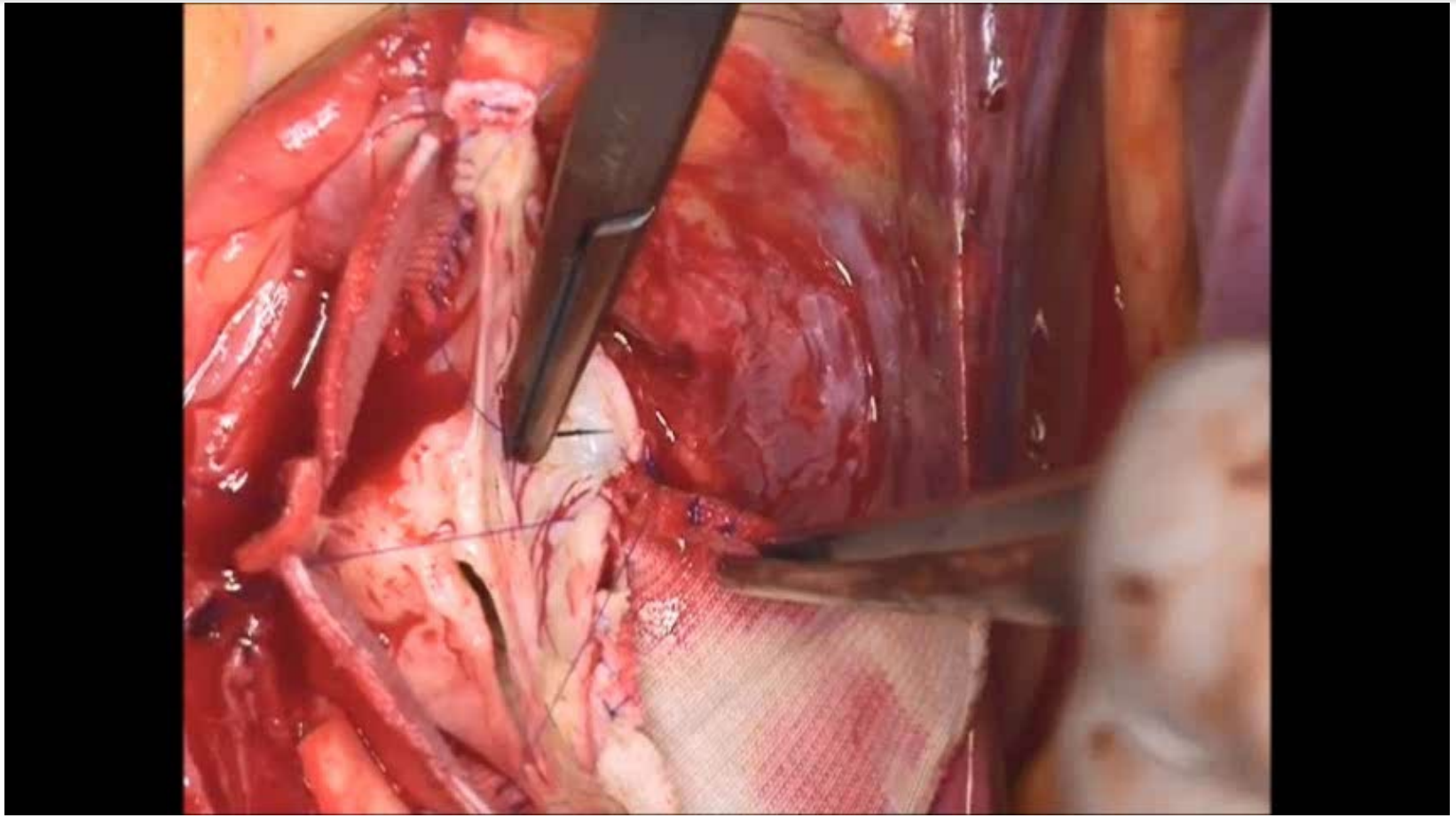
Surgery consists of leaflet repair and root remodeling (sinus enlargement and narrowing of the opposite side) aiming for symmetrical commissural orientation



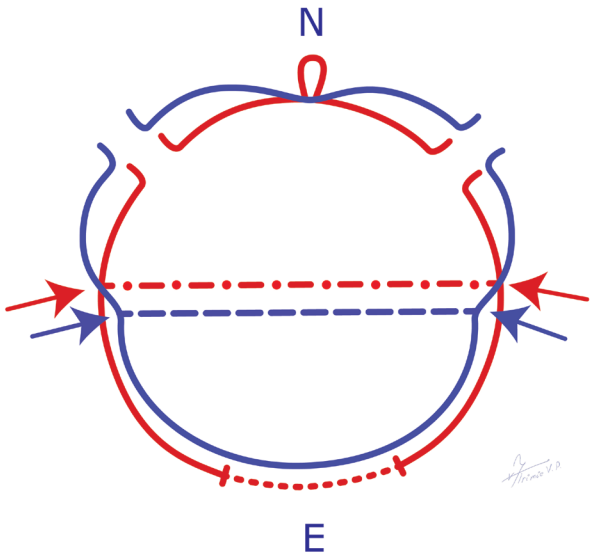


Scenario 2a: Aortic insufficiency with dilated aortic root

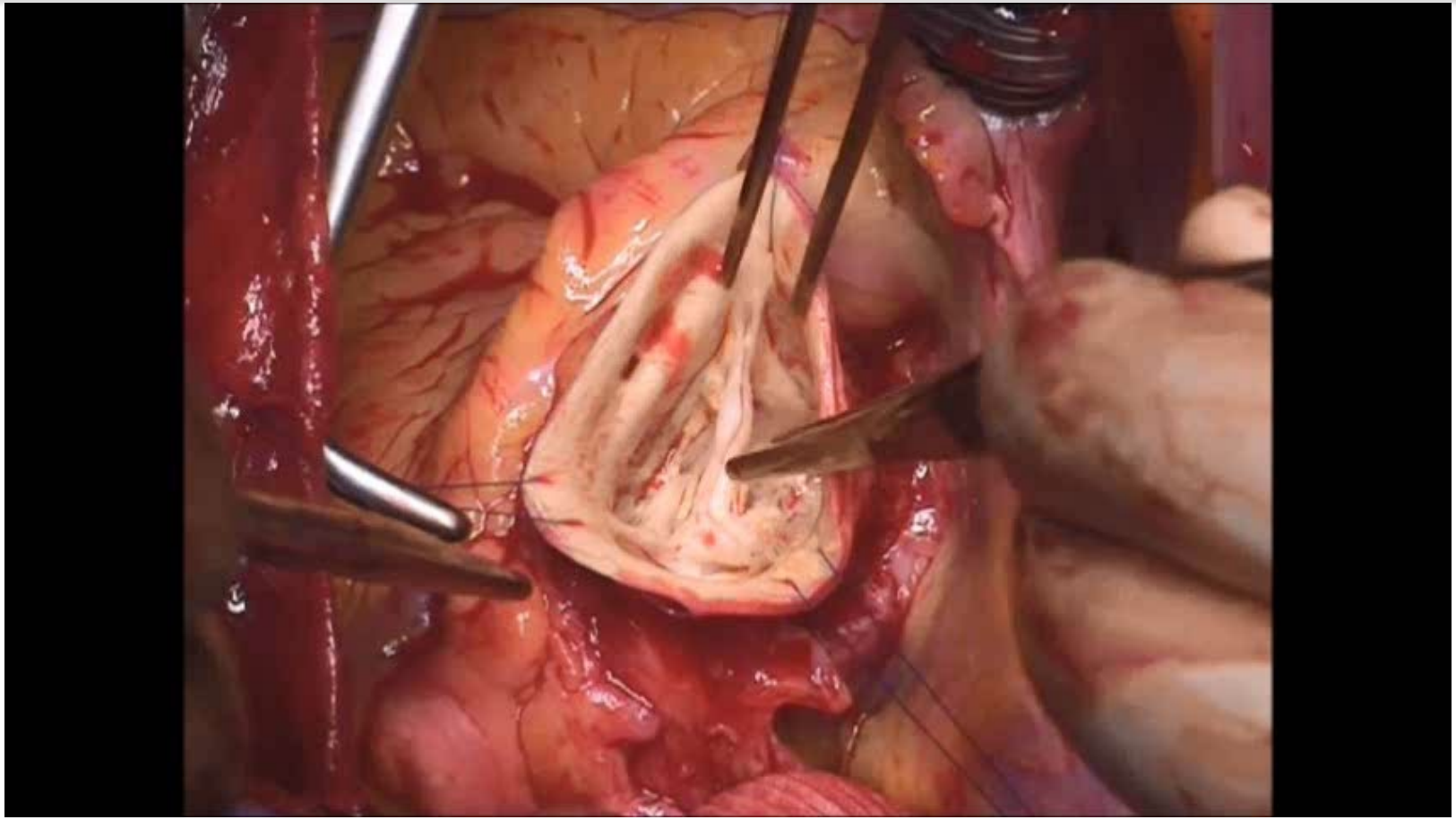




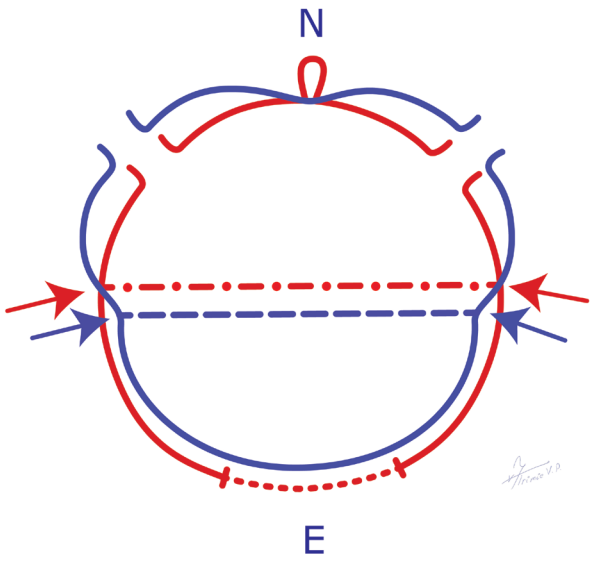
Scenario 2b: Aortic insufficiency with nearly normal aortic root



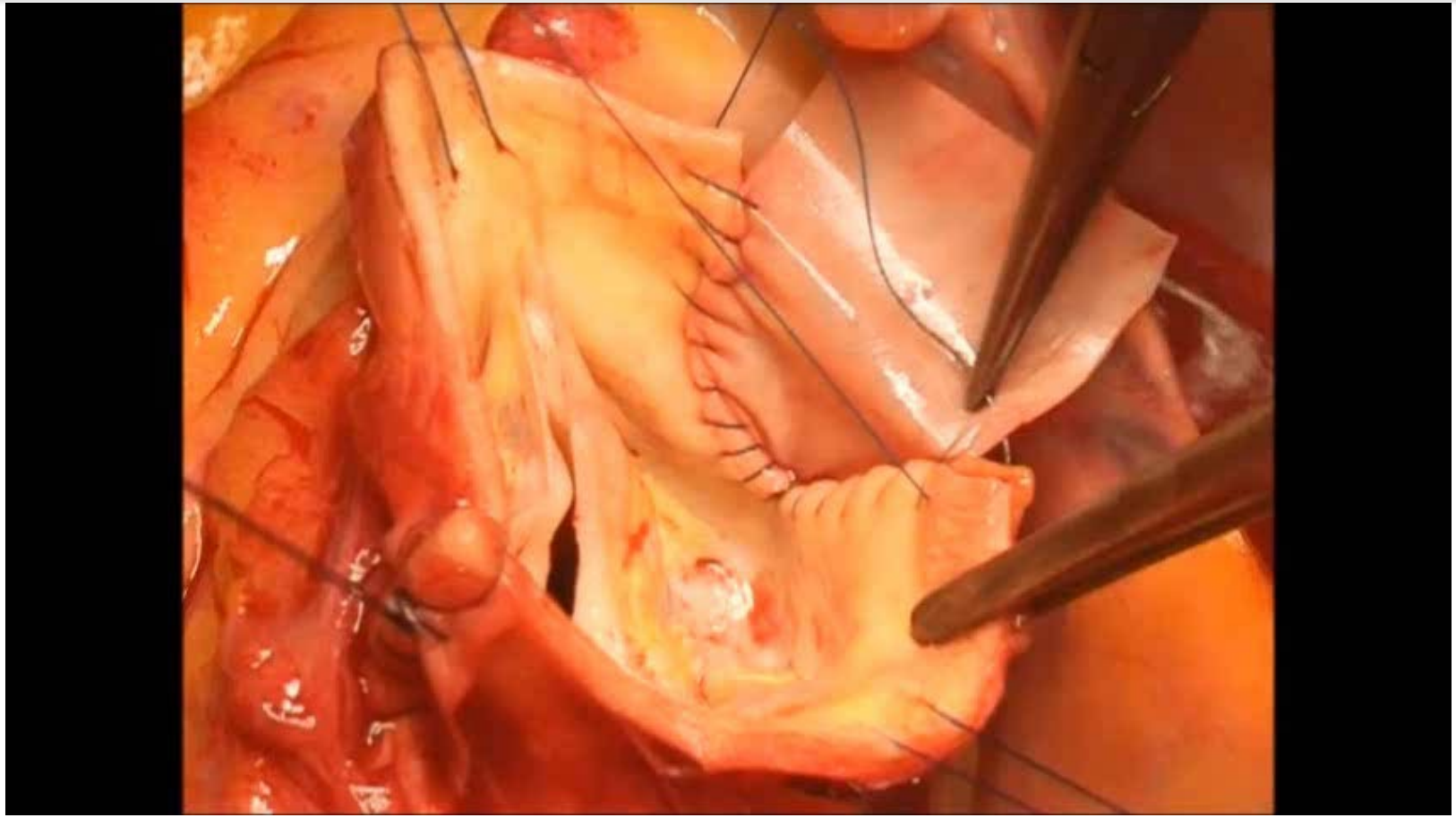
N-narrowing
E-enlargement



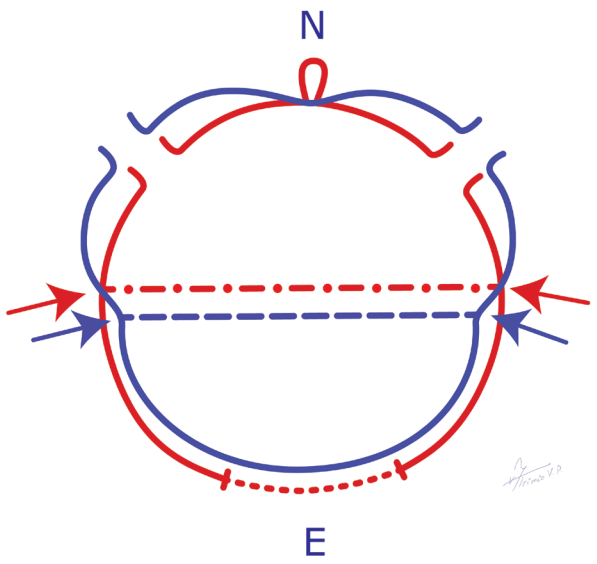
Scenario 2b: Aortic insufficiency with nearly normal aortic root



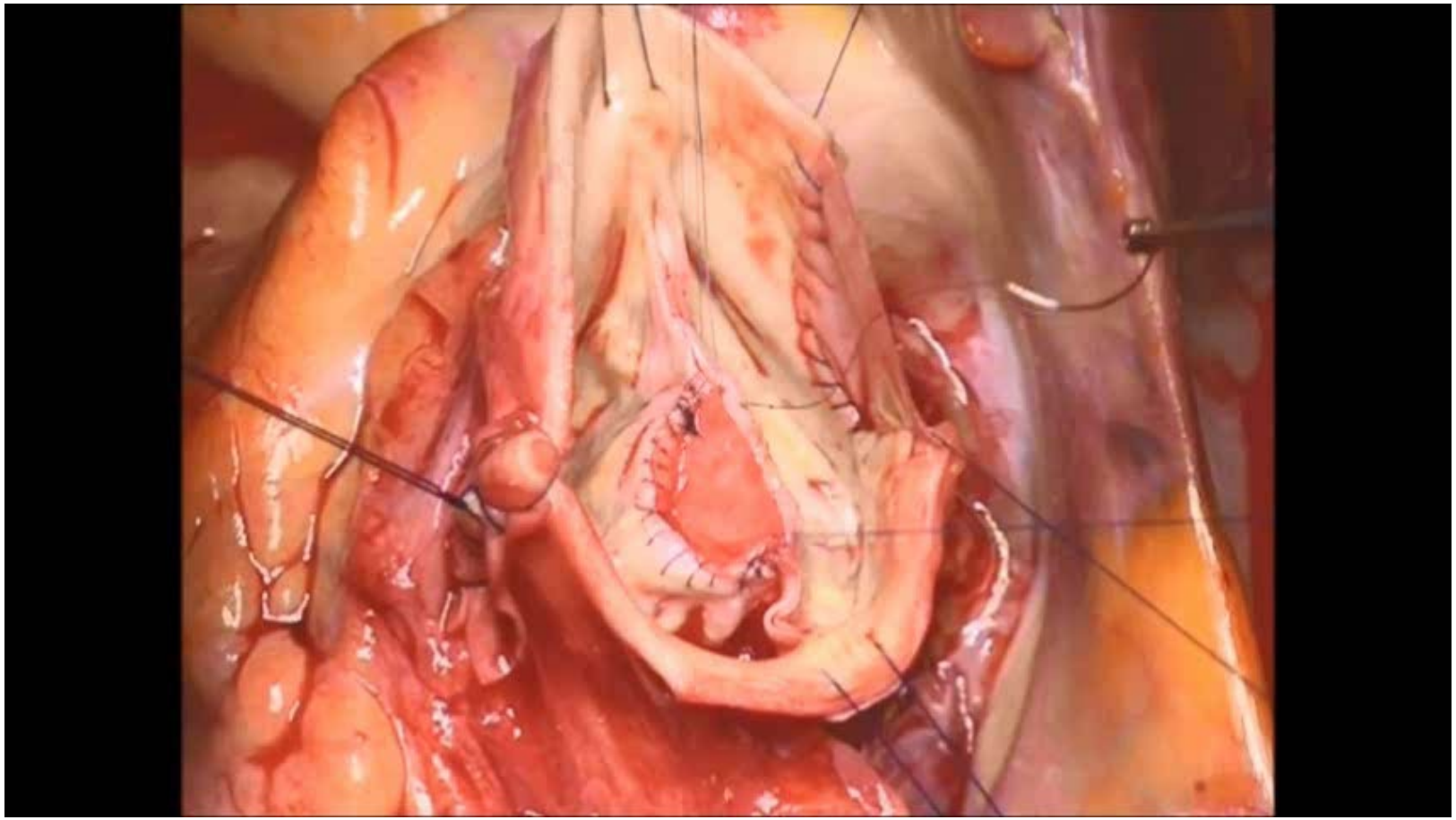
N-narrowing
E-enlargement



Scenario 2b: Aortic insufficiency with nearly normal aortic root



N-narrowing
E-enlargement



Conclusions

- **BAV is frequently associated with a root diameter of 4-5 cm, which does not necessarily need to be replaced.**
- **If the BAV is competent and the root has to be repaired for any reason, an anatomical restoration (replacement of native tissue with artificial material) without change of root dimension should be the aim.**
- **Root repair alone does not abolish aortic insufficiency in BAV with the exception of acute root dissection, which is the only form of root-related insufficiency.**
- **BAV insufficiency , when not related to dissection, can only be abolished with cusp repair.**

Thank you for your attention

Valve-sparing root repair means sparing a native form