AVVR management, repair technique, AVV repair in single ventricle

Using adjustable annular bridging technique

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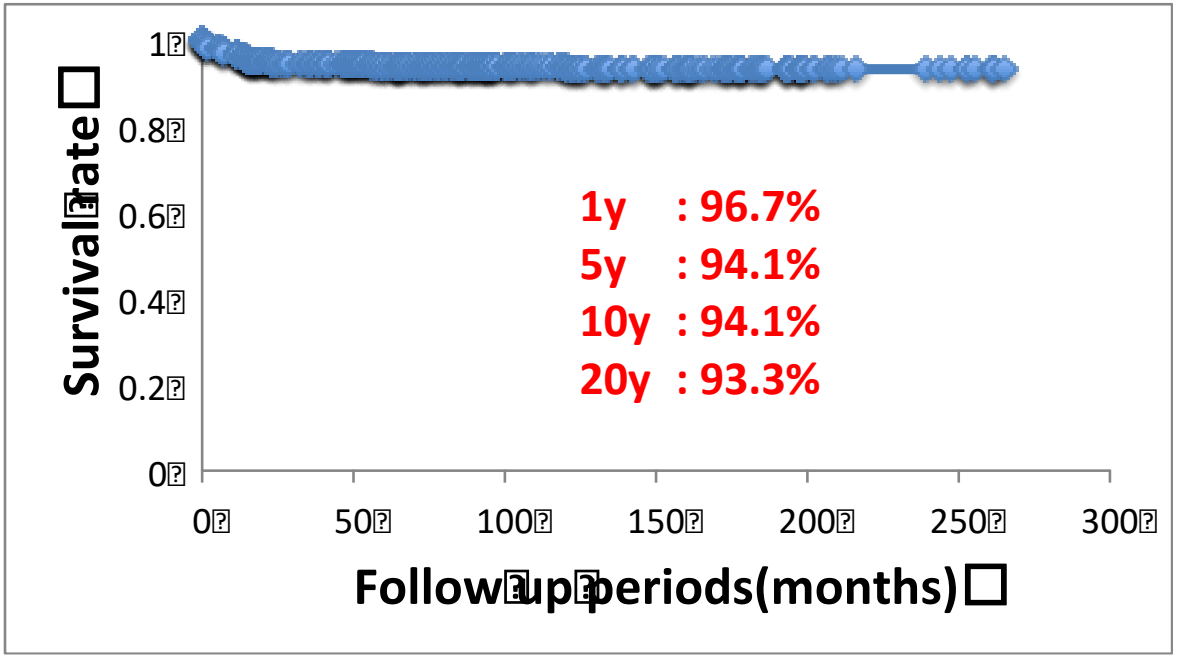
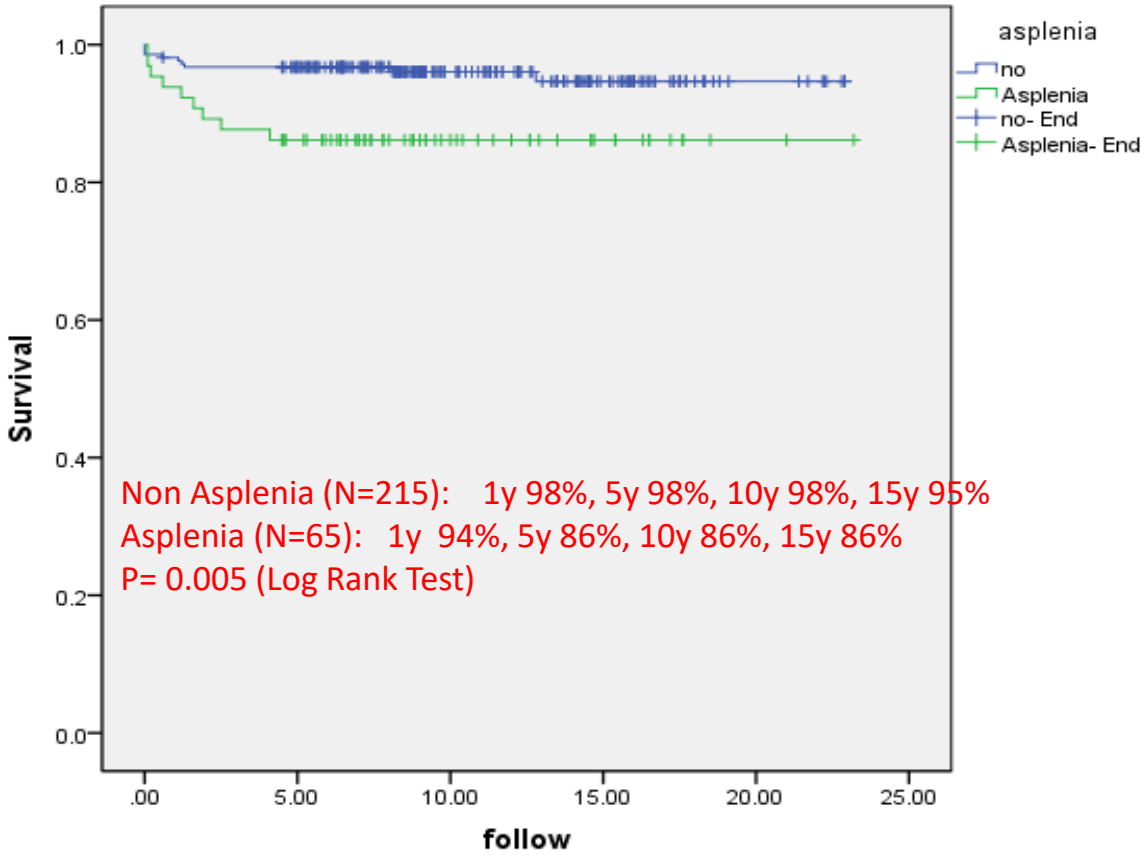
Actual survival following Fontan procedure



Asplenia



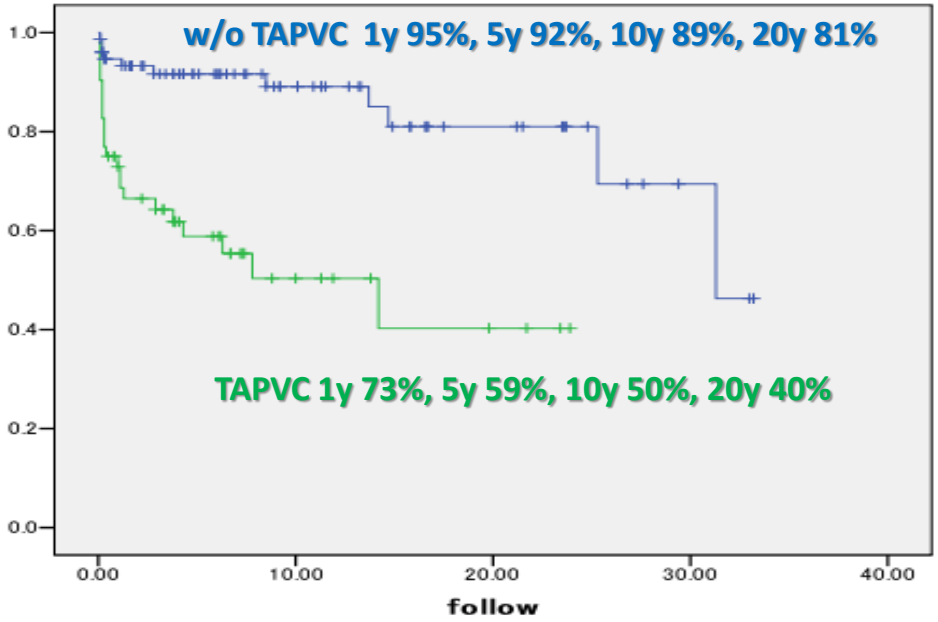
Non Asplenia (N=215): 1y 98%, 5y 98%, 10y 98%, 15y 95%

Asplenia (N=65): 1y 94%, 5y 86%, 10y 86%, 15y 86%

P= 0.005 (Log Rank Test)

Asplenia - TAPVC（P<0.001)

Log-rank test P<0.001



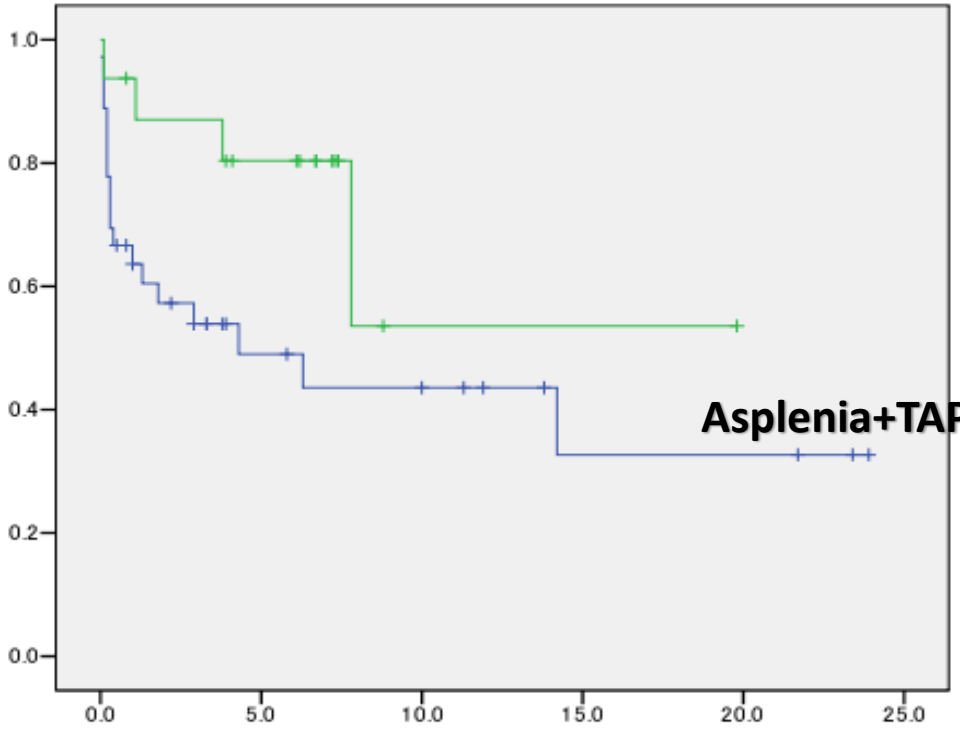
Risk factor for mortality (preoperative data)

		Alive n=317		Dead=20	p Value
	median	(range)	median	(range)	
Age(y)	3	(1-15)	4	(2-31)	0.0766
SpO2(%)	84	(58-99)	84	(74-96)	0.8307
PAP(mmHg)	11	(5-21)	13	(9-20)	0.0029
RAP(mmHg)	6	(1-20)	7	(2-13)	0.0009
EF(%)	64	(32-88)	58	(31-79)	0.1205
PAI (mm2/m2)	254	(93-616)	258	(142-520)	0.9728
EDP(mmHg)	6	(1-15)	9	(6-13)	0.0002
AVVR	1	(1-4)	2	(1-4)	0.0002
CTR(%)	52	(41-82)	57	(45-76)	0.0081
Ht(%)	50	(29-71)	51	(36-67)	0.5544
Cr(mg/dl)	0.32	(0.18-1.29)	0.37	(0.29-0.77)	0.4217

Actual survival :Asplenia+TAPVC

With CAVVR

(log-rank P=0.009)



Asplenia+TAPVC+CAVVR

Is the long-term results satisfactory?

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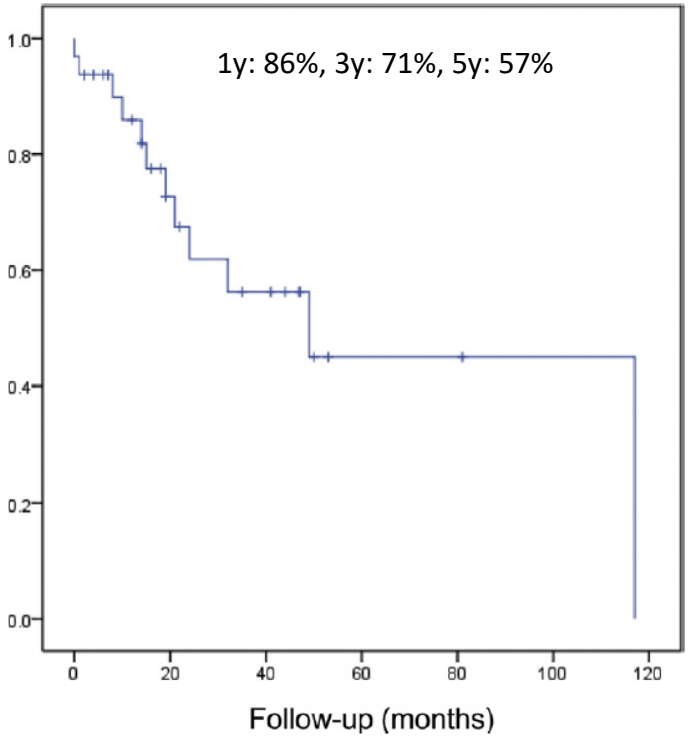
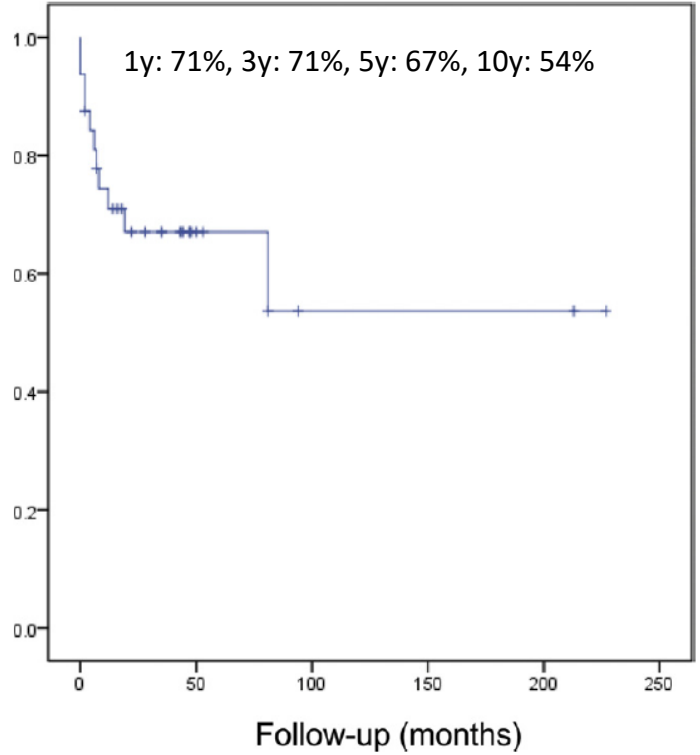
Actuarial moderate or sever AVV regurgitation free rate
Determined by the Kaplan-Meier method



Actuarial survival by the Kaplan-Meier method



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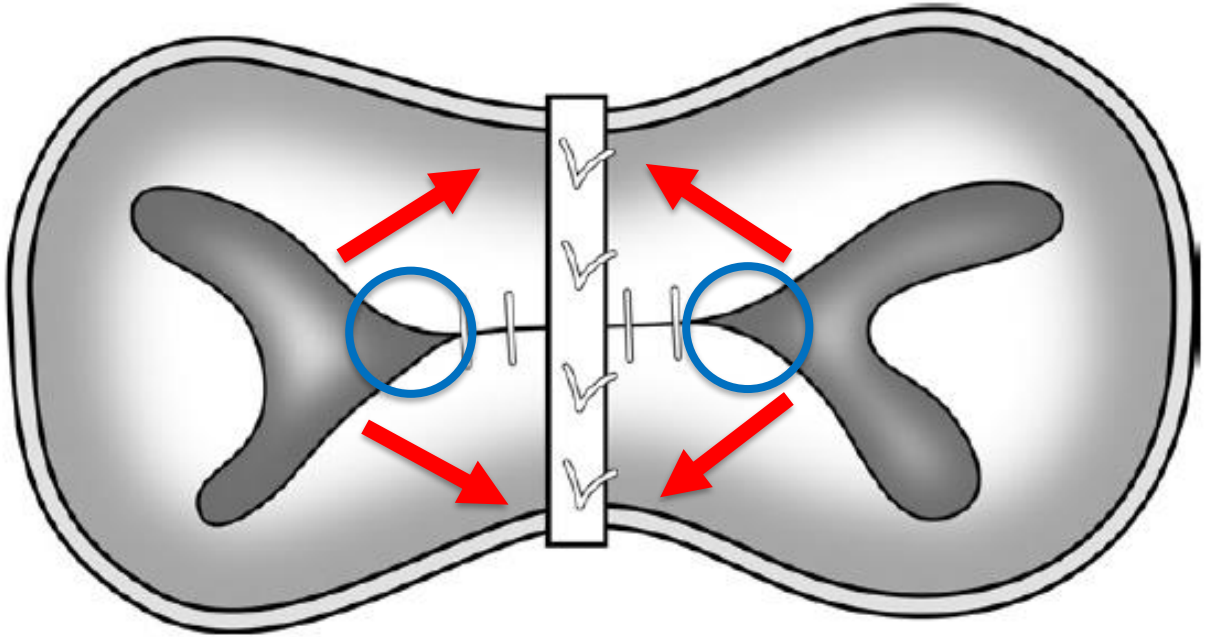
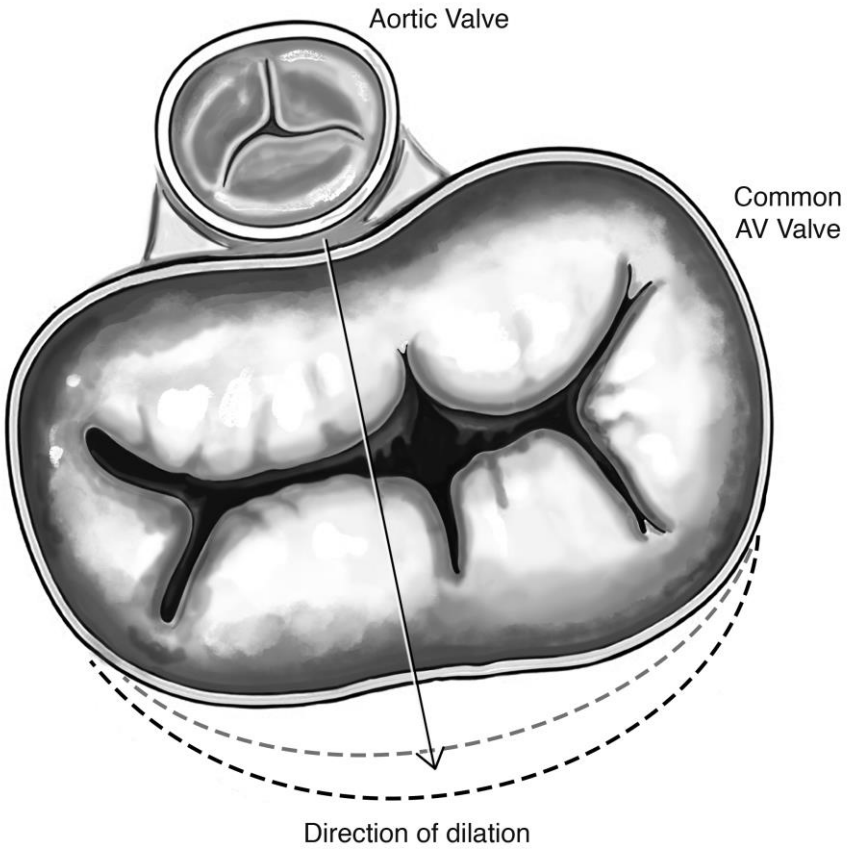
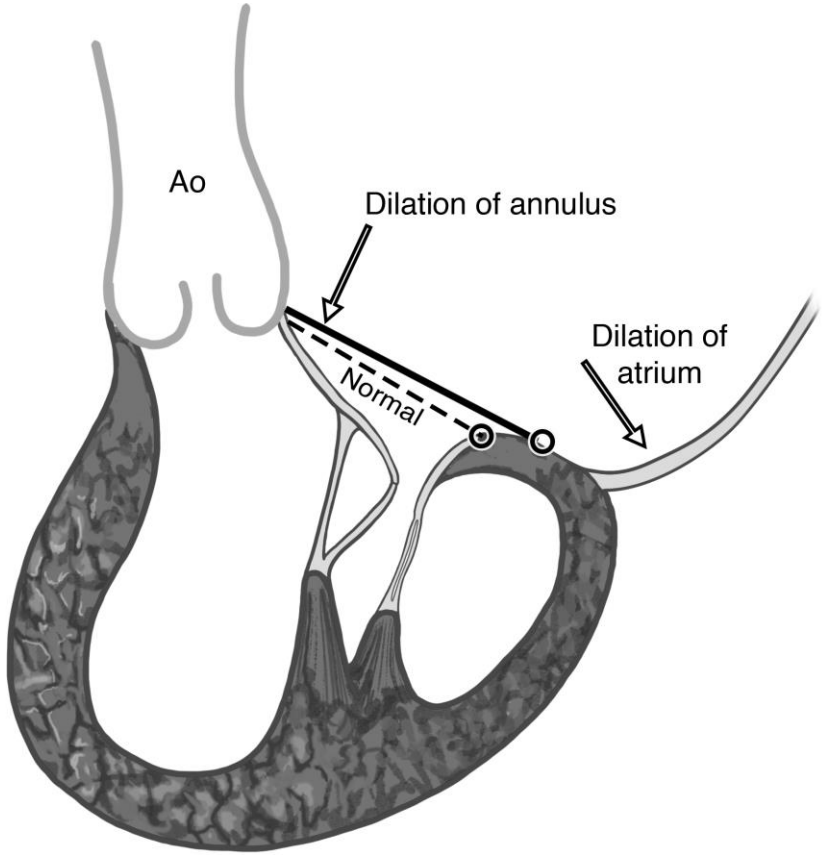
Bivalvation:

Increased regurgitation with growth and morphologic changes occurring over time







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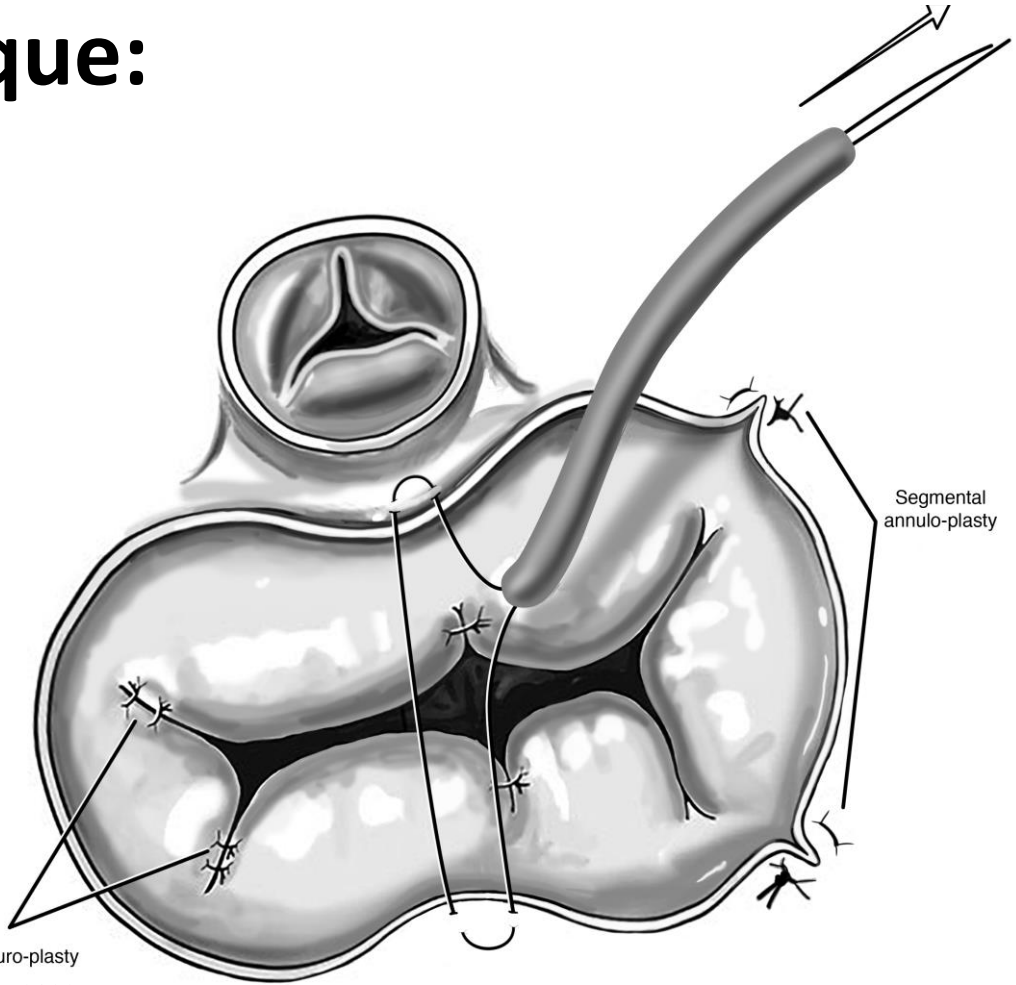
Surgical technique:

For adjustable annular bridging technique, an ePTFE vascular suture was applied to fix the length of the anteroposterior dimension against the valve annular dilatation. Using the tourniquet, the size of the valve orifice was adjusted by guidance of a regurgitation test.



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Asplenia UVH, 1 y 8m, s/p BDG9.7kg

Discussion:

Valve regurgitation in Fontan candidates gradually worsens over time. Most of them are due to valve annular dilation, which is caused by an incomplete fibrous skeleton. This study suggested that adjustable annular bridging technique may prevent valve anulus enlargement and subsequent valve regurgitation deterioration in the long-term.

Thank you for your attention

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