Anatomic Correction of Mitral Valve in Barlow Disease: Mid-Term Results From One Institution

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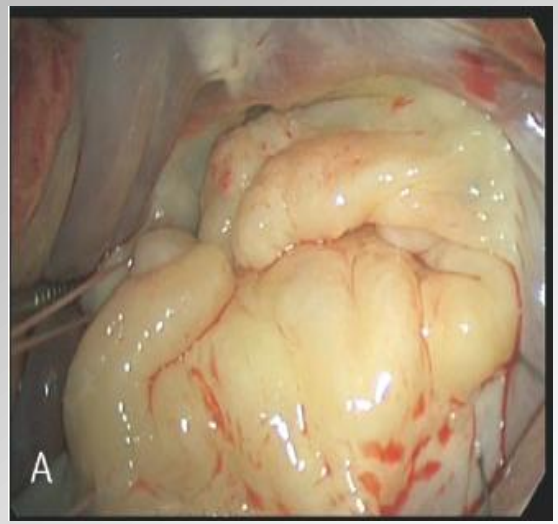
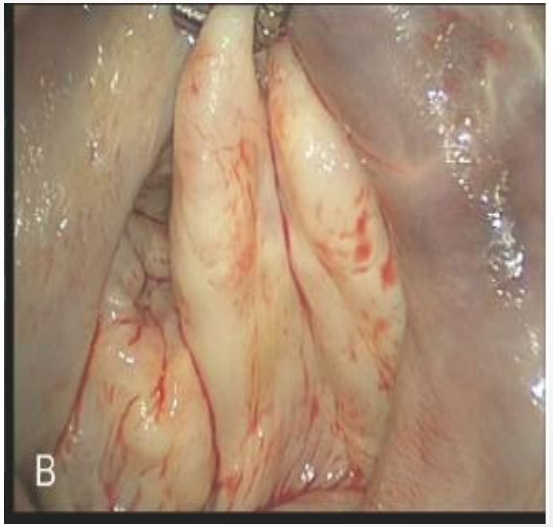


Aim

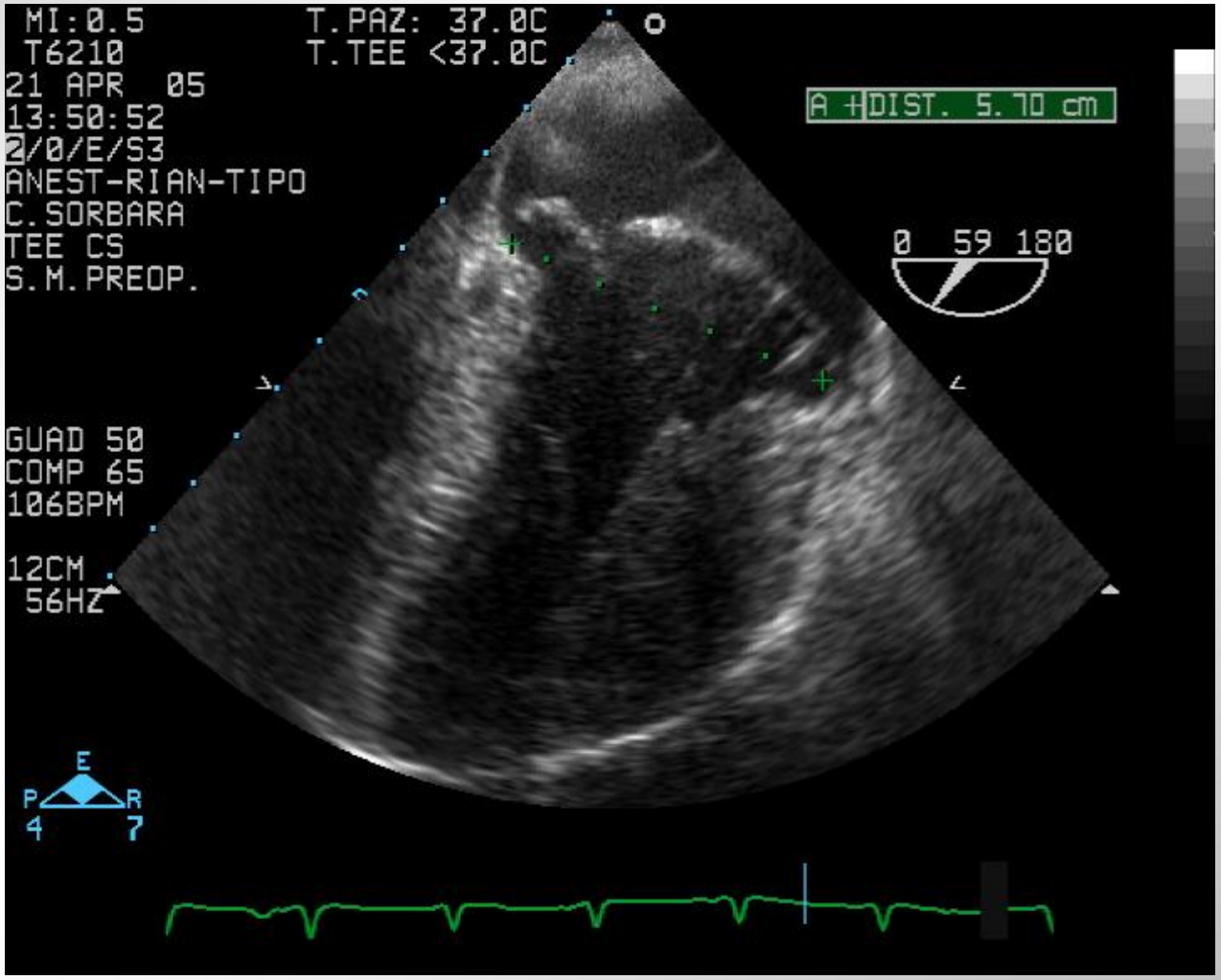


A Single-Institution Experience
With Anatomic Correction
of Mitral Valve in Barlow Disease

Echo Diagnosis

Criteria

- **Laeflets prolapse (> 2 mm)**
- **Anular dilatation**
- **Leaflets thickening (≥ 3 mm)**



Patient Population

October 2001- Dicember 2009:

1573 Mitral Valve Repair

102 Barlow Disease (6.4%)

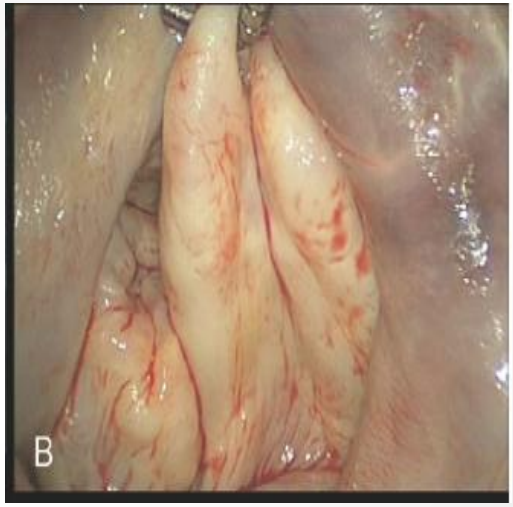
Mean age	57 yrs. range 28-80
Male gender	69 (67.6 %)
Atrial Fibrillation	27 (26.4 %)
CHF	25 (24.5 %)
LVEF	59 ± 8 %
NYHA Functional Class	
	II 33 pts. (32.3 %)
	III 69 pts. (67.7 %)

The goals of reconstructive surgery

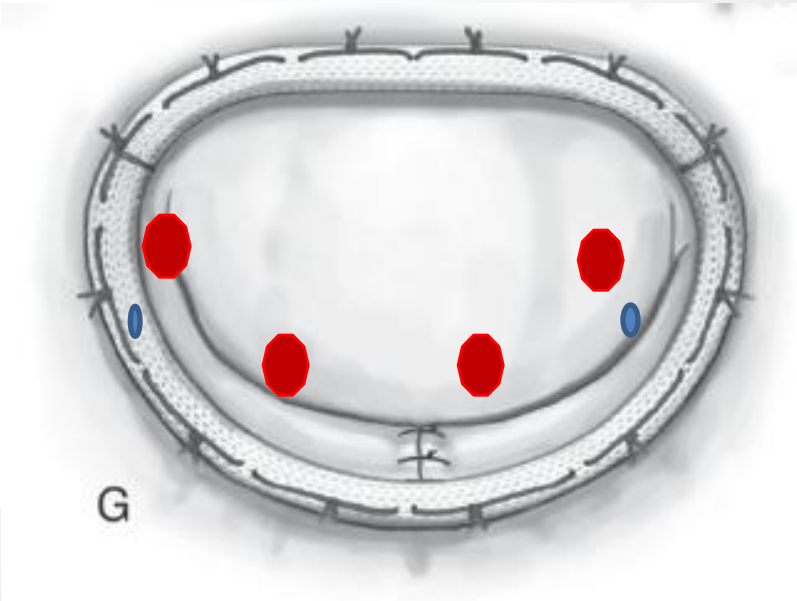
Preservation or restoration of normal leaflet motion

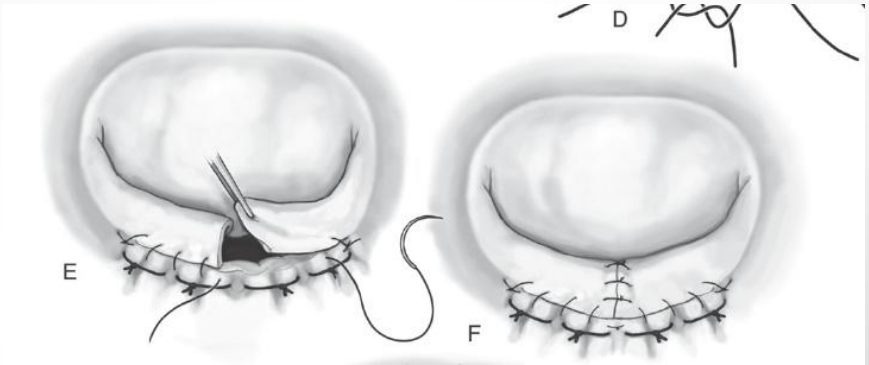
Creation of a large surface of coaptation

Stabilization of the annulus



- **Resection PML/AML ± Sliding**
- **Neocordae A1 A3 2X A2**
- **Neocordae P1-P3 (When prolapsed)**
- **± Clefts closure**
- **Annuloplasty**
- **Cordae tied with the LV filled**
- **CL at least 0.8 mm (Preferably>10 mm)**





Rings : (range) 36-40 mm

Surgical Inspection

	Patients (n)	%
Billowing	92	90.1
Tissue Excess	102	100
Leaflets thickening	102	100
Chordal elongation	92	90.1
Chordal Rupture	42	41.1
Multiple Clefts	53	51.9
Annular Dilatation	102	100
Annular Calcification	17	16.6
PMs Elongation	0	0
PMs Calcification	4	3.9
Mechanism:		
PML Prolapse	**33**	**32.3**
PML Flail	**35**	**34.3**
AML Prolapse	**5**	**4.9**
AML Flail	**6**	**5.8**
Bileaflet Prolapse	**64**	**62.8**

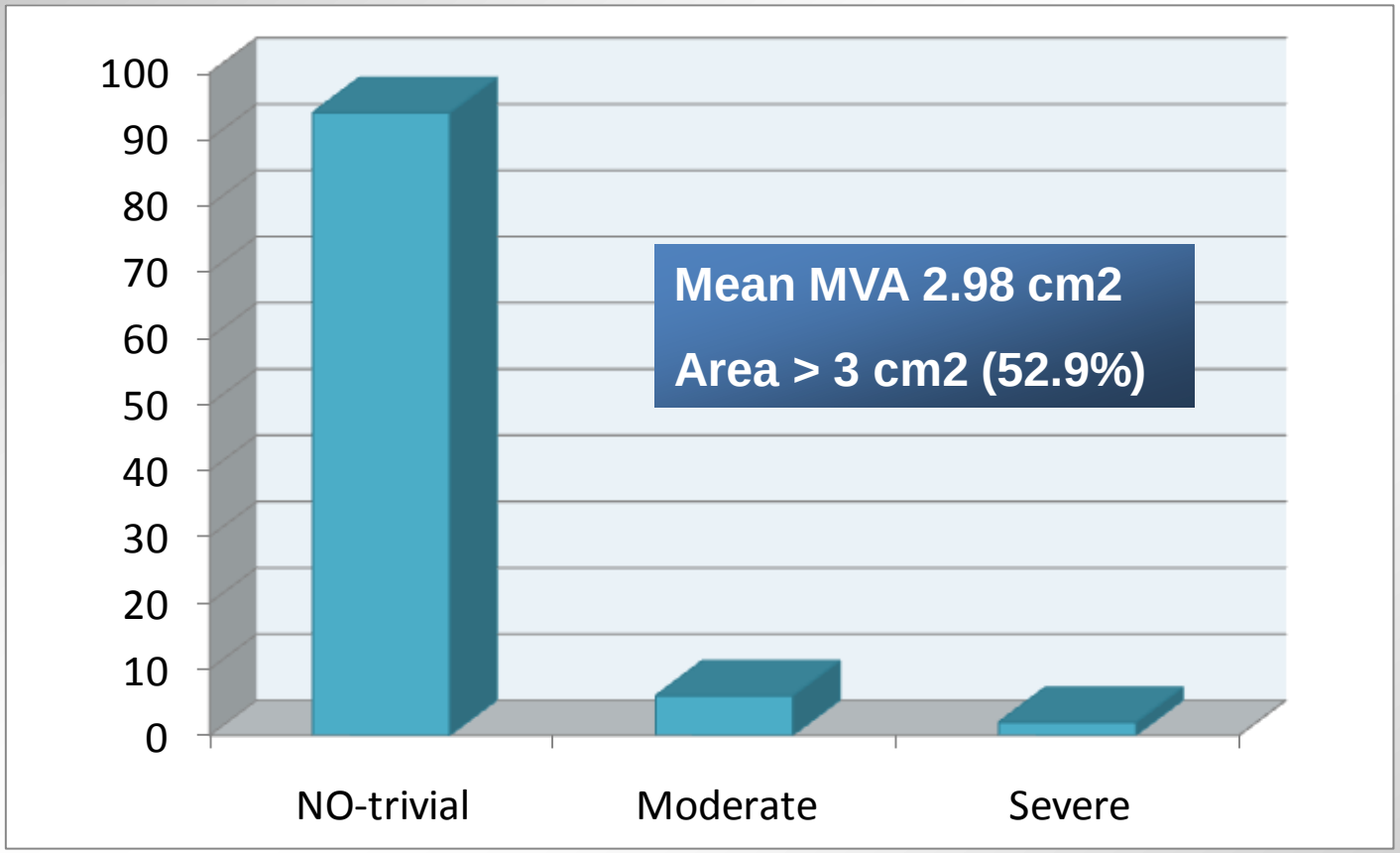
Surgical Data

	Patients (n)	%
MV Repair:		
Quadrangular resection PML	94	92.1
(Neo) chordae	97	95.0
Cleft's Closure	21	20.5
Neochordae (couples):		
AML	39	38.2
PML	13	12.7
AML+PML	45	44.1
Associated Procedures		
AF Ablation	34	33.3
Tricuspid annuloplasty	8	7.8
CABG	11	10.7
ASD Closure	4	3.9
Aortic Valve Surgery	4	3.9

Early-Follow up

	Pts.	%
Death	0	0
Cardiopulmonary Resuscitation	1	0.9
Bleeding	3	2.9
Pericardial Effusion	4	3.9
SAM	0	0
Residual Severe MR	1	0.9
In-hospital AF	20	19.6
AF at Discharge	3	2.9

Recurrent MR

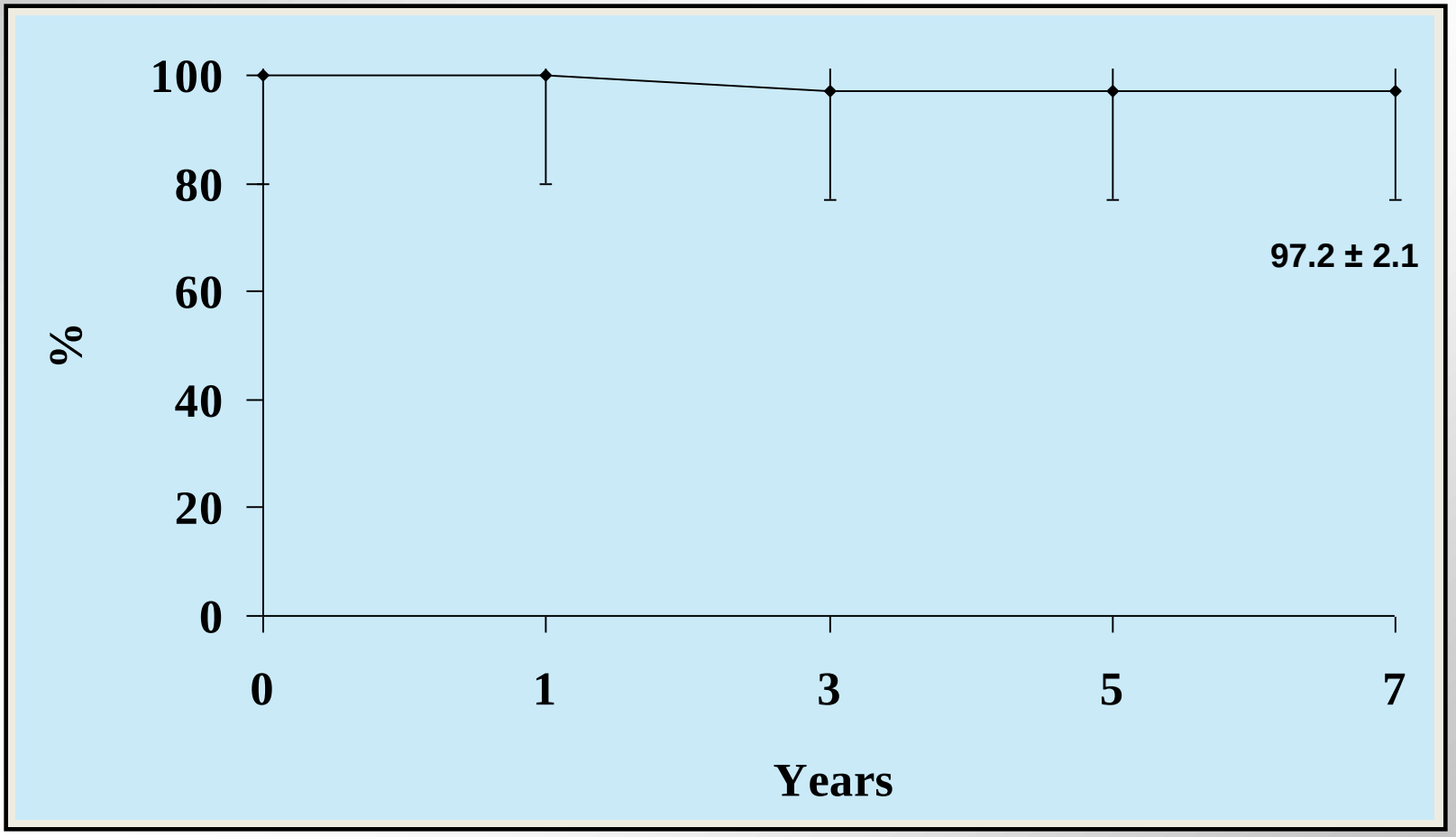


Median FOLLOW UP : 33 months [IQR 7-76]

Echo Results

	Baseline	Post operative	p
LA Diameter	49 (40-60) mm	40.1 (33-55) mm	0.007
LA Area	25 (13-47) cm2	18.8 (13-29) cm2	0.01
End Diastolic Diameter	59.8 (49-78) mm	52.1 (48-59) mm	0.04
End Systolic Diameter	35.3 (25-50) mm	34.5 (29-44) mm	ns
End Diastolic Volume	133 (92-228) mL	93.4 (45-120) mL	<0.001
End Systolic Volume	51.2 (14-130) mL	39.1 (20-72) mL	0.002
LVEF	59.8 (42-70) %	58.3 (45-70) %	ns

Freedom from reoperation



Conclusions

- The Targeted Approach to Anatomically Corrective Repair of MV in Barlow Disease enhanced satisfactory mid-term results with a low incidence of recurrent MR.

- An accurate echocardiographyc characterization and classification of MR is mandatory to enhance a correct surgical planning and management.

- **Our findings need to be confirmed by further larger studies**