

## Title: Evaluation of interatrial conduction disorders in a non-selected group of elderly patients

### Introduction

The Progression of functional and structural changes within the atria leads to interatrial conduction disorders As a result P-wave duration increases and its morphology might be altered. These changes may originate from various different diseases: arterial hypertension, ischemic heart disease, chronic heart insufficiency.

### Materials & methods

Our study included 210 patients (170 women (79.1%), aged 65 to 94 years (M = 78 years, SD =7 years) & we compared parameters such as: medication: and coexisting conditions. Data from ECG tracings (paper speed 50mm/s, amplitude of 1mv/1cm): P-wave duration, PR-segments, QRS-complexes. We classified the Bachmann's-bundle (BB) block's based on P-wave morphology in leads II and V1: Stage 1- physiologic interatrial conduction, Stage 2- partial block of the BB (P-wave duration >120ms & notched morphology in lead II), Stage 3- total block of the BB P-wave duration >120ms & biphasic morphology in lead II).

### Results

Variable	Stage			P-value
	Normal N = 77	Incomplete BB block N = 64	Complete BB block N = 69	
Age (years):				
<i>M ± SD</i>	76.2 ± 7.2	79.8 ± 7.1	78.0 ± 7.2	<b>0.015</b>
<i>Me [Q1; Q3]</i>	75 [70; 81]	81 [75; 85]	79 [72; 83]	
<i>Min - Max</i>	62 - 94	63 - 92	63 - 92	
CKD:				
Yes	4 (5.2%)	12 (18.8%)	10 (14.5%)	<b>0.042</b>
No	73 (94.8%)	52 (81.2%)	59 (85.5%)	
LA dimension (cm):				
<i>M ± SD</i>	40.2 ± 5.0	42.6 ± 5.0	41.5 ± 5.2	<b>0.049</b>
<i>Me [Q1; Q3]</i>	40 [37; 44]	42 [38; 45]	42 [38; 46]	
<i>Min - Max</i>	30 - 52	34 - 55	30 - 50	
PR (ms):				
<i>M ± SD</i>	169 ± 38	188 ± 34	201 ± 46	<b>&lt;0.001</b>
<i>Me [Q1; Q3]</i>	170 [150; 200]	195 [160; 220]	210 [180; 220]	
<i>Min - Max</i>	80 - 250	90 - 240	80 - 300	
P mean (ms):				
<i>M ± SD</i>	108 ± 23	130 ± 32	154 ± 34	<b>&lt;0.001</b>
<i>Me [Q1; Q3]</i>	110 [90; 120]	130 [110; 150]	150 [130; 175]	
<i>Min - Max</i>	60 - 170	55 - 230	70 - 230	
Glucose (mg/dL):				
<i>M ± SD</i>	103.8 ± 30.9	119.4 ± 39.8	117.7 ± 32.5	<b>0.004</b>
<i>Me [Q1; Q3]</i>	95 [85; 111]	106 [90; 132]	107 [95; 132]	
<i>Min - Max</i>	58 - 185	77 - 284	82 - 200	

CKD= Chronic kidney disease, LA= Left atrium, BB= Bachmann's-bundle

### Conclusion

Interatrial conduction disorders can be predicted by the prolongation of the P-wave. The only echocardiographic parameter which seems to be related to the presence of interatrial delay is left atrial diameter. Additional predisposing factors that influence the development of conduction disturbances are chronic kidney disease and increased fasting glucose levels.