

MP1-2

Beyond aortic dilatation - Positive effect of angiotensin II receptor blockers on mitral valve prolapse in a retrospective analysis of pediatric patients with Marfan syndrome

Olfe J., Pesch J., Mueller G.C., Seggewies F., Stark V., Kozlik-Feldmann R., Mir T.S.
Clinic for Pediatric Cardiology, University Heart Center, Universitätsklinikum Hamburg Eppendorf,
Hamburg, Germany

Objectives:

In recent years, treatment with Angiotensin-II-receptor-blockers (ARB) in patients with Marfan syndrome (MFS) has been well established. All studies, so far, focused on the the aortic root dilatation. No study has focused on the effect on the regularly appearing mitral valve prolapse (MVP) in MFS. The aim of our study was to analyse the treatment effect of ARB on the degree of MVP in pediatric patients with MFS.

Methods: Since 2008 we investigated 395 patients (11.4±5.5 y) with suspected MFS. 139 patients were diagnosed with MFS. 61 patients showed MVP. We retrospectively analysed database data and 2D-echocardiograms. Because of the high error measuring the actual MVP in millimeter, mitral anular diameter (MAD) was used as a surrogate parameter for MVP in MFS (Pini R, 1989, Circulation). Patients in the treatment group received oral Valsartan, control patients had no treatment. Patients taking beta-blockers or having being operated on the aorta were excluded to clearly indicate group allocation.

Results:

Prevalence of MVP in pediatric Marfan patients was 43,8%. In the control group the z-score of the MAD did not change significantly during the observation period. In patients treated with an ARB the z-score of the MAD was significantly reduced. Detailed data is shown in table 1 and graph 2.

Conclusion:

Prevalence of MVP in children with MFS is 40 times higher than in a healthy population (Sattur S, 2010, Exp Clin Cardiol). In our study, treatment with an ARB in pediatric patients with MFS leads to a significant reduction of the MAD as a surrogate parameter for MVP. This first data suggests another positive effect of ARB treatment in MFS beyond the growth restrictive effect on the aorta. Future studies have to analyse greater numbers of patients, the long term effect and develop better imaging methods for the detailed analysis of MVP e.g. MRI.

Table 1/Graph 2: Demographic and mitral valve data before therapy initiation or at first visit (t0) and at last follow up (t1) in patients with MFS without treatment (control) or treated with an angiotensin receptor blocker (ARB)

	control group n=12 (3 female)			ARB group n= 8 (4 female)		
Demographic data				p value		
Age (years) at treatment initiation / first visit	8,2 ±4,75			12,3 ±3,61	ns	
Follow up period in years	2,4 ±1,93			3,4 ±2,08	ns	
Mitral valve prolapse	t0	t1	p value	t0	t1	p value
z-score of mitral anular diameter	2,23	2,04	0,5121	2,59	2,21	*0,0336
ARB, angiotensin II receptor blocker						

