Aims: Degenerative aortic stenosis (DAS) is an active disease like atherosclerosis. Traditional risk factors for atherosclerosis are also closely associated with DAS. The purpose of this study is to assess the effect of diabetes on progression of DAS. Methods and results: We prospectively studied 246 consecutive patients between 2004-2011 with documented aortic sclerosis, mild and moderate aortic stenosis (AS) at echocardiography. DAS severity was categorized using aortic valve area (AVA) and mean gradient (MG). AVA was measured using the continuity equation and MG with continuous Doppler. All patients were compared for differences in sex, hypertension, smoking, obesity and dyslipidemia using X² tests. Study cohort included 166 males and 80 women with age 68±8 years, of which 112 (45%) had diabetes. The patients were assessed by serial echocardiographic exams. Comparison between diabetes and nondiabetes for changes in AVA and MG per year were performed using ANOVA. Baseline DAS was aortic sclerosis in 105 patients, mild AS in 99 and moderate in 55. Diabetes subjects smoked less (p=0.02) and had more hypertension (p<0.05), all other variables were similar (p<0.05). The interaction between diabetes and baseline DAS severity was significant (p=0.01), indicating comparisons should be viewed by baseline DAS severity. Diabetes had significantly larger change in AVA and MG than nondiabetes (p=0.001) for those with aortic sclerosis and moderate AS at baseline only. Conclusion: DAS severity progresses faster in diabetes than in nondiabetes subjects with aortic sclerosis and moderate AS at baseline. The diabetes patients with DAS need an intensive follow-up.