

Introduction

Prevalence of abdominal aortic aneurysm is 2-6%. Aneurysm is on the leading positions in death cause. Lot of patients die do to ruptured aneurysm. The etiology of abdominal aortic aneurysm remains unknown. Current treatment(resection or endovascular)is not indicated for everyone. We don't know the right conservative (pharmacological) treatment.

Aims

With our study, we would like to confirm the impact of atorvastatin on experimental abdominal aortic aneurysm. We would like to evaluate and quantified changes in the composition of an aneurysmatic wall under the effect of atorvastatin. Other aim is to make a summary of known knowledge of this disorder. These knowledges can help in searching for new treatment options.

Methods

Comparison of 2 groups of pigs with experimental abdominal aortic aneurysm. Group treated with atorvastatin and group without any pharmacological influencing. Comparing of aneurysmal growth rate. Evaluation of changes of the wall structure in both groups using a stereological tools. Review of published data.

Results

In our experimental work atorvastatin did not slow down the growth of the aneurysm. Effect was on the histological structure of the aneurysmatic wall. Wall structure of the aneurysm in group treated with atorvastatin was really close to wall without any aneurysmatic dilatation. Atorvastatin prevented the elastin fibres, preserved the contractile fenotype of VSM. Density of vasa vasorum was higher in statin group. Atorvastatin had no effect on the inflammatory infiltration of the wall of aneurysm.

Conclusion

The wall of an aneurysm, that is influenced by atorvastatin presents a stable histological structure. Atorvastatin has the potencial to prevent rapid growth of aneurysm in patients, that are not suitable or that are not indicated for surgery or endovascular treatment. Another big trials are needed to confirm these effects. Pharmacological treatment should have benefit not only for patients.