**ASTHMA ASSOCIATES WITH HUMAN ABDOMINAL AORTIC ANEURYSM AND RUPTURE**

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*Objective*: Both asthma and abdominal aortic aneurysms (AAA) involve inflammation. It remains unknown whether these diseases interact.

*Methods and Results*: Databases analyzed included Danish National Registry of Patients, a population-based nationwide case control study included all patients with ruptured AAA and age- and sex-matched AAA controls without rupture in Denmark from 1996 to 2012; Viborg vascular trial, subgroup study of participants from the population-based randomized Viborg vascular screening trial. Patients with asthma were categorized by hospital diagnosis, bronchodilator use, and the recorded use of other anti-asthma prescription medications. Logistic regression models were fitted to determine whether asthma associated with the risk of ruptured AAA in Danish National Registry of Patients and an independent risk of having an AAA at screening in the Viborg vascular trial. From the Danish National Registry of Patients study, asthma diagnosed <1 year or 6 months before the index date increased the risk of AAA rupture before (odds ratio [OR]=1.60¨C2.12) and after (OR=1.51¨C2.06) adjusting for AAA comorbidities. Use of bronchodilators elevated the risk of AAA rupture from ever use to within 90 days from the index date, before (OR=1.10¨C1.37) and after (OR=1.10¨C1.31) adjustment. Patients prescribed anti-asthma drugs also showed an increased risk of rupture before (OR=1.12¨C1.79) and after (OR=1.09¨C1.48) the same adjustment. In Viborg vascular trial, anti-asthmatic medication use associated with increased risk of AAA before (OR=1.45) or after adjustment for smoking (OR=1.45) or other risk factors (OR=1.46).

*Conclusions*: Recent active asthma increased risk of AAA and ruptured AAA. These findings document and furnish novel links between airway disease and AAA, 2 common diseases that share inflammatory aspects.