



Pathology Biology Section – 2006

G13 Pathological Changes Associated With Aortic Valve Stenosis

Lise A.M. Matzke, MSc, and Courtney Young, BSc*, James C Hogg iCAPTURE Centre, Room 166, 1081 Burrard Street, Vancouver, BC V6Z 1Y6, Canada*

After attending this presentation, attendees will understand the pathology of aortic valve stenosis (AVS). Aortic valve stenosis is a cause of sudden cardiac death in older individuals and young athletes.

As such, this poster will impact the forensic community by highlighting major pathological features of degenerative and bicuspid aortic stenosis as well as the underlying pathogenesis of these diseases.

An analysis of the morphological features and pathogenesis of this common heart valve disease will aid pathologists and researchers in understanding its role in sudden death. As the incidence of aortic stenosis increases, the rate of sudden death due to this disease does as well. This presentation will impact the forensic community and/or humanity by assisting in the understanding of the environmental and genetic determinants of its pathogenesis, which will aid those conducting pathological examinations to better understand the underlying features of the morphological changes seen at autopsy.

Aortic valve stenosis is the most common valvular heart disease among adults in the western world, and continues to increase in prevalence as the average lifespan of the population increases. As such, AVS has become a focus of intense investigation at the James Hogg iCAPTURE Centre in Vancouver, British Columbia, Canada.

Aortic valve stenosis may be due to congenital malformation of the valve, rheumatic fusion of commissures, secondary calcification of a congenital bicuspid valve, or primary degenerative calcification of an otherwise normal three cuspid valve. While the exact pathogenesis of AVS is unknown, several genetic and environmental determinants are most likely responsible.

AVS is characterized by narrowing of the aortic valve due to scarring and calcification, changes which create an obstruction to blood flow out of the main pumping chamber of the heart into one's circulation. Symptoms can include chest pain, fainting, or heart failure. If left untreated, the outcome of patients with AVS is poor. Once treated, however, mainly by valve replacement, the patient survival rates and well being greatly improve.

This poster will demonstrate some of the pathological changes associated with aortic valve stenosis with a discussion of its possible pathogenesis.

Aortic Stenosis, Cardiovascular Pathology, Sudden Death