**Endocarditis & Sudden Cardiac Death**

Susanna Cooper, Kathryn J. Griffin, Joseph Westaby, Mary N. Sheppard

**Background:** Endocarditis is growing in incidence due to increased interventions, valve replacements and immunosuppression. It can be difficult to diagnose clinically and if left untreated can present as sudden cardiac death (SCD) with few or subtle preceding symptoms. True incidence of endocarditis related to SCD is unknown.

**Methods:** Retrospective analysis of our national database of 6000 cases of SCD, 1994-2018, for “endocarditis” as cause of death.

**Results:** Of 21 cases (0.35% of total), 14(67%) were male and mean age was 32.6 ± 16.0 years. Post-mortem examination showed the aortic valve (AV) was affected in 12(57%), mitral in 5(24%), tricuspid in 3(14%) and pulmonary in 1(4.8%). 2(9.5%) were not valvular, both affecting graft repairs of the greater vessels. 5(24%) had coronary artery septic emboli and infarction. Twelve (57%) had an identifiable valve abnormality, prosthetic valve or previous valve operation, the most common being bicuspid AV (6/50%). 12(57%) had prior symptoms but only seven (33%) had endocarditis diagnosed in life. Vegetations ranged from small easily-missed irregularities to large and fungating.

**Conclusion:** This study highlights that although rare, endocarditis is an important cause of SCD in those with valvular disease and/or previous valve surgery. Preceding symptoms can be vague, and most individuals are not diagnosed during life. The absence of a pre-mortem diagnosis in almost 70% of our cohort highlights the need for through macroscopic pathological examination of the heart and cardiac valves. The gross appearance of vegetations can vary widely and lesions can be missed at autopsy.