

REPORT ON THE EUROPEAN SOCIETY OF CARDIOLOGY MEETING

STOCKHOLM : 28 AUGUST - 01 SEPTEMBER 2010

I was the guest of Merck-Serono at this meeting. I am grateful for their sponsorship of my economy airfare, meeting registration and accommodation.

PREVENTION: Dr Rory Collins from Oxford presented the results of the 2nd cycle of Cholesterol Trialists' Collaboration which includes 170 000 patients treated in the various trials. These results support greater reduction in LDL cholesterol with more potent statin therapy to achieve greater reductions in cardiovascular events. He showed that there is a delayed onset of the complete benefit after instituting statin therapy, with about 50% of the eventual annual benefit being achieved in the first year. He found no evidence of a reduced effect in patients with a baseline LDL <2 mmol and could not confirm the loss of HDL effect in the setting of a low LDL. When questioned, he supported reducing LDL to around 1 mmol, a level not generally achievable with statin therapy alone. The meta-analysis demonstrated a slight increment in haemorrhagic stroke but no evidence of an increased incidence of cancer with statin therapy. This analysis has been accepted for publication in *The Lancet*.

UNUSUAL MYOCARDIAL DISEASES: I attended a session on the recognition and management of unusual myocardial diseases which dealt with amyloidosis, Fabry's disease and sarcoid heart disease. Amyloidosis is the phenotypic expression of deranged organisation of protein which is deposited in the myocardial interstitium. It is not a storage disease. The type of amyloid is classified according to the protein source: immunoglobulin, transtheritin and other types. The transtheritin type includes both familial and senile varieties. Early cases are difficult to identify and are often misdiagnosed as hypertrophic cardiomyopathy. In certain cases the amyloid deposition may be localised and mimic scar. Although amyloid heart disease may occur in isolation in 12%, it should be suspected when other features of amyloidosis (eg. polyneuropathy, nephrotic syndrome, bilateral carpal tunnel) are present. Although not specific, ECG voltages may be low in amyloid heart disease. Suspect amyloid when there is a disparity between ECG voltages and the degree of LVH detected on echo.

Fabry's disease may also present with features of myocardial hypertrophy due to a deficiency of alpha galactosidase A leading to an accumulation of glycolipids within the myocytes. The condition has been identified in 1:40 000 US males and is treatable with enzyme replacement. It was recommended that alpha-galactosidase A be measured in patients with unexplained LVH.

Sarcoid heart disease is typically associated with thinning of the upper (basal) portion of the interventricular septum. The pathogenetic mechanism is not understood but is related to a disordered immune response. It is treated by immunosuppression, permanent pacing or ICD implant where appropriate and transplantation when heart failure supervenes.

The role of endomyocardial biopsy was discussed. The procedure has a low risk in expert hands and yields valuable diagnostic information when histology, molecular biology, and immunohistochemistry are combined. It was emphasised that four or five 3-5 mm³ samples must be obtained from different sites. Biopsy is appropriate in the monitoring after cardiac transplantation, the diagnosis of non-ischaemic heart failure (especially prior to cardiac transplantation) arrhythmogenic RV dysplasia, cardiac masses and acute myocarditis.

ANTI-PLATELET AND ANTI-COAGULANT TREATMENT: The AVERROES trial evaluated patients with AF unsuitable for warfarin treatment and compared the oral anti-Xa apixaban to aspirin. Stroke and systemic embolism were reduced by 46% (3.3% to 1.5%) over 1 year without an observed increase in major or intracranial bleeding.

The EINSTEIN DVT trial compared the oral anti-Xa rivaroxaban to usual treatment with enoxaparin and warfarin in the prevention of DVT – pulmonary embolism. Rivaroxaban was as effective as usual therapy without an increased bleeding risk.

A substudy of PLATO examined the effect of genetic polymorphisms in the CYP2C19 and ABCB1 alleles on the outcomes with clopidogrel and ticagrelor which are both P2Y₁₂ receptor inhibitors. Whereas there was a differential effect in the case of clopidogrel with worse outcomes occurring in patients who had any loss of function CYP2C19 alleles, the effect of ticagrelor was independent of these 2 genetic variations.

Ticagrelor may have effects beyond platelet inhibition. This is inferred by the incremental benefit over time that was observed in the PLATO study. There is an hypothesis that the effect relates to adenosine-like effects of the molecule. This contention may be borne out by the finding that patients experiencing dyspnoea on treatment (an adenosine effect) have better survival.

Elinogrel is a novel P2Y₁₂ inhibitor which has both IV and oral formulations, is active for about 12 hours and is not dependent upon cytochrome P450. A phase 2 trial comparing elinogrel to clopidogrel found a similar incidence of bleeding with better platelet inhibition.

HEART FAILURE: The SHIFT study evaluated a specific population of 6 558 patients with systolic heart failure (EF<35%) who were in sinus rhythm, with a heart rate >70/min, with a hospitalisation for heart failure within 12 months, who were on stable background treatment for heart failure including their maximal tolerable dose of beta-blocker, in NYHA Class II to IV. Half of these patients were treated with ivabradine up to 7.5 mg bd and compared to a placebo-treated group. The study achieved its primary endpoint. The composite of hospitalisation for heart failure and cardiovascular death was reduced in the ivabradine treated group (P<0.0001). There were important differences in the components of the primary endpoint: hospitalisation for heart failure was reduced by 26% (P<0.0001) and cardiovascular death by 9% (P=0.128 N.S.). Subgroup analysis of the deaths suggested that death from heart failure was reduced by 26% (P=0.014) whereas all cause death was reduced by 10% (P=0.092 N.S.). Additional subgroup analysis found that, whereas the extent of heart rate reduction in the patients on beta-blockade bore a relationship to mortality, the mortality rate on beta-blockade was lower than that of those not receiving beta-blockade, suggesting an effect of beta-blockade beyond heart rate reduction. In the case of ivabradine, no effect was detectable beyond heart rate reduction.

ATRIAL FIBRILLATION: The ESC has issued new guidelines for the management of atrial fibrillation. These guidelines recommend the use of flecainide or propafenone for more rapid conversion of atrial fibrillation in the absence of structural heart disease. Amiodarone's effect is much slower in this setting. Vernakalant is effective in converting paroxysmal atrial fibrillation in 51% of cases in <90 min. "Upstream" therapy with ARB's, omega 3 fatty acids or statins to prevent atrial fibrillation has not proved effective. ANTI PAF studied the ARB olmesartan to reduce the time to first recurrence of AF and the AF burden and found no benefit. Wallentin commented that the benefit of dabigatran in the RELY study is in part attributable to poor INR control and a higher risk of intracranial haemorrhage. The new guidelines place AF ablation as therapy for patients in whom anti-arrhythmic drug therapy has failed.

A large registry study of atrial fibrillation reported that although rate control was the strategy selected most often, it was the least successful and that patients remained symptomatic despite achieving rate control. It was observed that the rate of hospitalisation increased when guideline recommendations were not followed.

PACING: The DANPACE study found no difference in 10-year survival, heart failure or stroke between patients randomised to atrial pacing alone vs. dual chamber pacing for sick sinus syndrome. The occurrence of AF was lower in the dual chamber pacing group. Reoperation was more frequent with atrial pacing.

CORONARY BYPASS SURGERY: Taggart reported on a randomised trial of single vs. bilateral IMA grafting. Slight increases in operation time, ventilation, ICU stay and hospital stay were observed with BIMA. Outcomes at one year were no different although a 1.3% increase in the need for wound reconstruction was found in the BIMA group.

Tony Dalby

Milpark Hospital