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VACCINATION IN HEART FAILURE

Dr Vidyut Jain, Indore

Heart failure (HF) is a common cardiovascular disease (CVD) and often associated with recurrent hospitalization and high mortality due to multiple comorbidities. Respiratory infections are very common in HF and more so in elderly group which forms the major group of HF patients. Common respiratory infections are pneumococcal and influenza in such patients. Preventing influenza infection with vaccines has proved to reduce HF hospitalization in multiple studies, like FLUVAC, PARADIGM-HF substudy, FLUCAD and INVEST. Frequency of vaccination of once in 5 years for pneumococcal and every year for influenza is a feasible and affordable approach for secondary prevention in HF. Guidelines from the Heart Failure Society and ESC also affirm the same but only a small number of patients receive vaccinations.

TREATMENT OF IRON DEFICIENCY IN HF: IRONING OUT THE EVIDENCE

Dr Anoop George, Vellore

Iron deficiency (ID) is seen in 30% in stable and 50% in hospitalized patients (HFrEF and HFpEF). Anemia is a mediator or marker of HF severity. In healthy subjects, diagnosis of ID is made through an assessment of ferritin. As a single value transferrin saturation (TSAT) <19.8% alone performed at least as well in detecting true ID. It is linked with reduced exercise capacity, impaired quality of life, and poor prognosis independently of anemia and left ventricular ejection fraction (LVEF). Observational studies have shown that ID with and without anemia is significantly associated with mortality. The treatment options include erythropoietin stimulating agents. The other option is transfusion with a restrictive red blood cell transfusion strategy rather than a liberal threshold.

ISCHEMIC LV DYSFUNCTION, MYOCARDIAL VIABILITY AND INDICATIONS FOR REVASCULARIZATION

Dr Robert O Bonow, USA

- Assessment of myocardial viability if often used to predict improvement in left ventricular (LV) function after coronary artery bypass grafting (CABG) and thus select patients for CABG. Identification of viable myocardium also predicts improved survival after CABG.
- STICH viability substudy: The presence of viable myocardium was associated with a greater likelihood of survival in patients with coronary artery disease (CAD) and LV dysfunction, but this relationship was not significant after adjustment for other baseline variables. The assessment of myocardial viability did not identify patients with a differential survival benefit from CABG, as compared with medical therapy alone.
- Viability testing does identify high risk patient subgroups and is associated with: outcome with evidence-based medical therapy; outcome with revascularization. BUT, does not independently predict survival benefit from revascularization. Viability testing should not be considered a prerequisite for decisions regarding medical vs. surgical management in patients with ischemic LV dysfunction.

STROKE PREVENTION IN HIGH RISK PATIENTS WITH AF

Dr Jan Steffel, Zurich

Non-vitamin K oral anticoagulants (NOACs) are standard therapy for stroke prevention in atrial fibrillation in 2020: Based on randomized controlled trial (RCT) evidence, confirmed in large observational analyses. Individualize treatment!: No "one size fits all" NOAC; many aspects to consider. Patient engagement! Listen to patients' fears and preferences. Apixaban: Very good efficacy and safety profile across a large range of patient populations.

IMPLICATIONS FOR DECISION-MAKING FOR THE MANAGEMENT OF PATIENTS WITH STABLE CAD

Dr Sripal Bangalore, New York

- Data from approximately 65,000 patient-years of follow-up from RCTs of routine revascularization vs. initial medication therapy suggest: 1 in 3 in the initial medication therapy undergo revascularization over ~4.5 years of follow-up; Similar survival; Reduced non-procedure myocardial infarction (MI); Reduced unstable angina; Greater freedom from angina; Increased procedural MI.

- Revascularization to improve survival in stable ischemic heart disease (SIHD) and high-risk subgroups: It is recommended in the left main disease and LV dysfunction. It is not recommended in 3-vessel disease, proximal left anterior descending (LAD) disease, and extensive ischemia. Patient preference matters!

ANTIHYPERTENSIVE DRUG CHOICES AND SEQUENCING: GUIDELINE UPDATE AND PERSPECTIVES

Prof Neil R Poulter, UK

- 2018 ESC/ESH guideline: Initial therapy – Dual combination: angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) + calcium channel blocker (CCB) or diuretic; Step 2 – Triple combination: ACE inhibitor or ARB + CCB + diuretic; Step 3 – Triple combination + spironolactone or other drug.
- ISH 2020: Drug choice and sequencing – Step 1: Dual low-dose combination (ACE inhibitor or ARB + CCB); Step 2: Dual full-dose combination (ACE inhibitor or ARB + CCB); Step 3: Triple combination (ACE inhibitor or ARB + CCB + Thiazide-like diuretic); Step 4: Triple combination + spironolactone or other drug.
- Amlodipine is the choice of CCB as it is most effective, has longest duration of action and has robust RCT evidence.
- Single pill combinations – More effective and rapid BP control than monotherapy and two 'free' drugs; reduced side effects; enhanced adherence; improved cardiovascular (CV) protection; more cost-effective.

ACUTE ISCHEMIA WITH NORMAL CORONARY ARTERIES – HOW, WHY AND WHAT NEXT?

Dr Rajiv C, Kochi

The optimal evaluation for patients with a diagnosis of MINOCA (Myocardial Infarction with Non-Obstructed Coronary Arteries), after excluding other causes for troponin elevation, should be aimed at determining the specific cause for each patient so that targeted therapies can be used. In general, patients who have survived ST-segment elevation MI (STEMI) without evidence of significant CAD have a better long-term outlook than those with atherosclerotic-mediated STEMI; in-hospital mortality is approximately 60% lower, and 1-year mortality, 40% lower. However, the subsequent risk for patients presenting with MINOCA is largely based on the underlying etiology and comorbidities.

STATINS: DURING COVID TIMES

Dr Sandeep Chopra, Ludhiana

Patients with COVID-19 infection have an increased risk of CV complications and thrombotic events. Statins are known for their pleiotropic anti-inflammatory, antithrombotic and immunomodulatory effects. Studies in patients with CVD have shown decreased C-reactive protein, thus providing evidence of the anti-inflammatory benefits of statins along with their cholesterol-lowering effects. The same anti-inflammatory activity might improve outcomes in COVID-19 patients with increasingly severe illness, worsening respiratory failure, and increasing D-dimer and IL-6 levels, all of which are associated with increased mortality. Earlier studies have pointed to the possible effectiveness of statins in decreasing influenza-related hospitalizations and deaths. During the 2009 H1N1 pandemic, statin therapy was found to be linked with reduced disease severity among hospitalized patients. Features such as relatively good lung compliance despite poor oxygenation, lack of pulmonary vasoconstriction with resultant significant shunting, as well as thrombotic microangiopathy indicate that vascular endothelial dysfunction has a key role in the pathogenesis of COVID-19. Statins might improve endothelial and vascular function in these patients. A combination of statin/ARB was used in an unconventional and poorly documented experience to target the host response and prevent endothelial barrier damage in Ebola patients during the outbreak in West Africa.

The JUPITER trial assessed relatively healthy patients with high CRP levels and noted a significantly decreased rate of deep vein thrombosis in those administered rosuvastatin compared to placebo. Another study noted that statin therapy was associated with a 50% decline in recurrent pulmonary embolism. It is believed that statins might mitigate the effects of COVID-19 infection in selected patients based on the understanding of its associated coagulopathy, endothelial dysfunction and dysregulated inflammation.

Suggested Reading: [1]Albert MA, Danielson E, Rifai N, et al. Effect of statin therapy on C-reactive protein levels: The Pravastatin Inflammation/CRP Evaluation (PRINCE): A randomized trial and cohort study. JAMA. 2001;286(1):64-70. [2]Arslan F, Pasterkamp G, de Kleijn DP. Unraveling pleiotropic effects of statins: bit by bit, a slow case with perspective. Circ Res. 2008;103(4):334-6.

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