Frequency of risk factors and aetiologies for heart failure in Saudi Arabia: A hospital-based study

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Introduction: Most studies on HF epidemiology have been performed in western countries, and scarce data are available in Arab populations including Saudi Arabia.
Objectives: In this study we aimed to determine the frequency of risk factors and aetiologies for HF in patients admitted with acute heart failure (AHF) to a tertiary care referral center in Riyadh, Saudi Arabia.
Methods: We enrolled all consecutive patients admitted to our center between September 2009 to December 2011 with the primary diagnosis of acute heart failure. It is a prospective cohort study of the risk factors and aetiologies leading to heart failure in that population. Relevant information regarding the risk factors and aetiologies of HF were recorded on CRF designed in accordance with the objectives of the study.
Results: We enrolled 882 patients with median age (IQR) of 59 (15) years; 68% men, 95% Saudis; 30% had de novo HF, and 72.3% had reduced ejection fraction. Exacerbating factors for AHF admission were multifactorial including acute coronary syndrome (ACS) in 35.5% of patients, uncontrolled hypertension in 19.6%, infections in 13.8%, worsening renal failure in 34.3%, noncompliance with diet in 58.8%, and with treatment of HF in 19.3%. The main aetiologies of HF were CAD (59.3%), idiopathic dilated cardiomyopathy (20.6%), hypertension (8.2%), primary valvular heart disease (7.6%), cardiotoxic cardiomyopathy (2.5), pregnancy related cardiomyopathy (1%) and thyroid disorder related cardiomyopathy (1%). The prevalence of coronary artery disease (CAD) risk factors was high: 62.9% had diabetes mellitus, 68.7% had hypertension, 44.2% were either current or ex-smokers, and 36.4% had hyperlipidaemia.
Conclusions: Coronary artery disease, hypertension, cardiomyopathy and valvular heart disease are the major contributors to heart failure in this patient's cohort. The exacerbating factors for acute heart failure included high rate of noncompliance to either heart failure diet or medications which remains as a potential target for improvement of care.

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Impact of successful percutaneous balloon mitral valvuloplasty on pulmonary vascular resistance and right ventricular functions

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Background: Mitral stenosis (MS) still results in significant morbidity and mortality worldwide. Percutaneous balloon mitral "valvuloplasty" commissurotomy (PMC) as invasive, nonsurgical procedure is safe and effective therapeutic modality in selected patients with rheumatic MS. Right ventricular (RV) function abnormalities play an important role in the development of clinical symptoms and the overall prognosis of patients with MS, It occurs early before the systemic venous congestion develops, so it has been shown to be a major determinant of clinical outcome. Severe pulmonary hypertension (PH) is present in about 38% of severe MS cases. Pulmonary vascular disease frequently complicates long standing MS and may significantly influence prognosis. Non-invasive estimation of pulmonary vascular resistance (PVR) correlates strongly with invasive measures at both normal and elevated pulmonary pressures.
Objectives: Assess the effects of successful PMC on PVR and RV functions, immediately and after 6 month using new Doppler echocardiographic indices.
Patient and methods: 50 consecutive patients; 45 females (90%) & 5 males (10%) with isolated moderate and severe rheumatic MS underwent successful PMC. All of the following parameters were measured before PMC, Immediately after PMC and after 6 months of PMC using transthoracic echocardiography: Mitral valve area ***(MVA)***, peak diastolic pressure gradient ***(PDPG)***, mean diastolic pressure gradient ***(MDPG)***, pulmonary acceleration time ***(PAT)***, mean pulmonary artery pressure ***(MPAP)***, tricuspid regurge velocity ***(TRV)***, right ventricular systolic pressure ***(RVSP)***, right ventricular ejection fraction ***(RVEF)***, right ventricular outflow time velocity integral ***(RVOTTVI),*** right ventricular outflow tract fractional shortening ***(RVOTfs)***, tricuspid annular plane systolic excursion ***(TAPSE)*** and pulmonary vascular resistance ***(PVR) was calculated as*** PVR = TRVm/s/TVIRVOT cm x 10 + 0.16.
Conclusions: PMC has a very favorable impact on progressive and sustained improvement of RV functions, regression of pulmonary artery pressure and recovery of PVR (measured non-invasively) on short term and after 6 months of follow up. Regression of TRV was strong predictor for recovery of PVR and RVSP while improvement of RVOTFS was a strong predictor of recovery of RVEF.

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Impact of fenestration creation on managing patients with protein loosing enteropathy complicating Fontan procedure

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Introduction: Protein loosing enteropathy (PLE) is well known complication following Fontan procedure and one way of managing such complication is to create fenestration if it is not present or enlarging it if it is small to reduce the Fontan pressure and reduce venous congestion which end up by intestinal protein loss.
Aim: To evaluate the effect of such procedure in our population.
Method: From February 2006 through October 2011 9 patients who underwent fenestration creation due to development of PLE was assessed in regard to clinical, laboratory result and hemodynamic effect prior and post procedure.
Result: Median age is 7 years(4–21) , median weight is 23 kg (15–52), male: female ratio is 3.5:1 (male & 2 female), median saturation pre and post procedure was 93% and 82% respectively, median albumin pre and post procedure was 18 gm/dl and 31 gm/dl during the first 2 wks and 36 gm/dl thereafter, median pulmonary artery pressure before and after was 25 mmhg (17–32 mmhg) and 16 mmhg (14–19 mmhg), transpulmonary pressure gradient reduced from a median of 11 mmhg to 5 mmhg, No immediate deaths , 2