Results: Severe hypovitaminosis D (< 12.5 nmol/l) was noted in 10.6% of the subjects. Boys had significantly higher cases of severe-moderate hypovitaminosis D as opposed to girls ($p = 0.014$). 25-hydroxyvitamin was inversely correlated to age, BMI, systolic and diastolic blood pressure, waist, hips and waist-hip ratio and triglycerides (p-values 0.0002, 0.0004, 0.003, 0.0004, 0.0008, 0.0002, 0.002 and 0.003, respectively). Age and systolic blood pressure were the significant predictors for 25-hydroxyvitamin D, explaining 31% of the variance perceived ($p = 0.0005$).

Conclusion: Significant inverse associations of serum 25-hydroxyvitamin D to cardiometabolic parameters present promising cardioprotective benefits of vitamin D status correction at an early age either by supplementation or lifestyle modification. Follow up studies are needed to validate findings.

Tracks: Pediatric Cardiology.

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SHA 33. Fetal tachyarrhythmia: Guidelines for management

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Objectives/introduction: Abnormalities of fetal heart rhythm account for about 10% of referrals to the fetal cardiologist. Sustained fetal tachyarrhythmia is considered to be of clinical significance as it may indicate severe systemic disease or may have the potential to compromise fetal circulation. For such abnormalities prenatal diagnosis and management could be critical and could ultimately improve the outcome. Treatment of fetal tachyarrhythmia is currently practiced in a few cardiac centers in our country with great variation in treatment. It is well known that worldwide there is still no consensus regarding fetal tachyarrhythmia treatment.

Objective: To implement Guidance Protocols for all pediatric cardiologists who undertake fetal echocardiography and who still have limited experience in fetal tachyarrhythmia treatment.

Methods: A prospective multi-institutional study in which pregnant women anywhere in the Kingdom suspected of having fetal tachyarrhythmia (SVT, AF, VT, fetal heart rate more than 180 BPM) will be enrolled in the study. Enrolment will be achieved either: by referring the patient to the participating center or; by submitting the patient's data to the primary investigator and following the abovementioned Guidance Protocol.

Results: To improve our knowledge of the electromechanical properties of the fetal heart as well as the mechanisms of arrhythmia.

Conclusion: To further improve outcomes.

Tracks: Pediatric Cardiology.

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SHA 34. Compare the effect of mesenchymal stem cells (MSCs) and endothelial cells (ECs), on cardiac function and angiogenesis in acute myocardial infarction (MI) induced in sheep animal model

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Objectives: Nowadays induction of angiogenesis has adopted for treatment of diffuse coronary artery disease that may not respond to conventional revascularization methods such as PTCA and CABG. In this study after intramyocardial injection of MSCs and ECs, we compared angiogenesis and cardiac function in a large animal ischemic heart model.

Methods: Acute MI was induced in 18 sheep (12 studies and six controls) by ligating the second diagonal branch of the LAD. After ligation, autologus MSCs and ECs (derived and cultured from saphenous vein), were injected in the infarcted area and border zone. Cardiac function was evaluated before, 1 day and 2 months after operation using echocardiography. After 2 months all animals were sacrificed. Immunohistochemistry (IHC) studies were performed.

Results: Echocardiography in MSCs and ECs groups showed significant increase in ejection–fraction (EF) in compare with control group. (P-value: 0.0004 for MSCs, 0.0029 for ECs). Two study groups showed significant increase in vascular density both with Smooth Muscle Actin (SMA) antibody (P-value: 0.0192 for MSCs 0.0057 for ECs) and Von Willebrand factor (vWF) (P-value: 0.0012 for MSCs 0.0004 for ECs). The pattern of vascularity in MSCs and ECs groups were diffused.

Conclusion: It seems that both MSCs and ECs can promote angiogenesis and improve cardiac function. Presumably, MSCs are differentiated to endothelial cells and make angiogenesis as it occurs for ECs. Further studies should be done for long term follow up to evaluate the effectiveness of ECs for improving cardiac function in compare with MSCs.

Tracks: Cardiovascular Surgery.

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SHA 35. The relationship between self-concept cognitive perception and adherence to medication regimen in Iranian heart failure patients

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Objectives: Heart failure (HF) is one of the many chronic conditions that require patients to adhere to a lifelong therapeutic regimen to achieve optimal outcomes. Medication adherence in heart failure (HF) is a crucial but poorly understood phenomenon. The purpose of this study is survey the relations between cognitive perception of self concept according to Roy's self-concept mode theory and adherence to treatment regimen in heart failure patients.

Methods: About 108 heart failure patients from two academic health care centers in a correlation Descriptive design with three scales were examined. The Cronbach's alpha coefficient after pilot study for cognitive perception of self concept questionnaire (Tomas, 2004) and medication adherence. Questionnaire were calculated. The content validity of these scales was checked.

Results: Challenge to self concept had a direct and positive relationship with adherence to medication regimen ($r = .38$) ($p = .000$). Threat to self concept had a negative and inverse rela-