12.6 y in BV group ($p < 0.001$). Depression was least frequently observed in the MV group ($P = 0.022$), while a trend of higher DASS domains was observed in the BV group ($p = $ NS). Predictors of lower depression rate include; living outside Riyadh city, lower level of education, being unemployed and having a supportive husband.

Conclusion: Patients with MV have the most stable psychological status, probably as a result of stronger spousal relationship. Recommendation: Counselling husbands may strengthen spousal relationship and improve psychological wellbeing of patients with PHV.

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25. Novel adipokine tazarotene induced gene 2 correlations with increased cardiovascular risk determined by body composition, insulin resistance, dyslipidemia and diabesity in Saudi women

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Tazarotene induced gene 2 (TIG2) is a novel adipokine that is believed to be a mediator for the adipose tissue inflammation that occurs in obesity. The present study compared TIG2 levels between healthy and type 2 diabetic women matched for age and body composition. We also aimed to assess the relationship of serum TIG2 levels with body composition, insulin resistance, dyslipidemia and diabesity in Saudi adult women. This observation case-control study was conducted at the Departments of Physiology and Medicine, Saud University Riyadh, Saudi Arabia, from September 2013 to April 2014. A total of 100 subjects were recruited, including 51 adult diabetic females, and a control group consisting of 49 healthy females. Finally 80 subjects were selected as per inclusion criteria. In the finally selected group, 45 of were diabetics and 35 were healthy subjects matched for age, BMI and body composition with age ranging between 30 and 65 years. Body composition analysis was estimated using Bioelectrical impendence analyzer. Fasting 10 ml venous blood samples were analyzed for glycemic markers, lipids and TIG2. Insulin resistance indexes were calculated by homeostasis model assessment of insulin resistance (HOMA-IR) and quantitative insulin sensitivity check index (QUICKI) using standard formulas. The two groups were matched for age, BMI, body fat percentage (BF%), basal metabolic rate (BMR), truncal fat and WHR. Serum TIG2 levels were higher in diabetics than controls (256.09 pm 57.01 vs 305.63 pm 73.66, $p = 0.001$). Systolic blood pressure ($p = 0.001$), weight ($p = 0.040$), fat mass ($p = 0.045$) and visceral fat ($p = 0.025$) were found to be significantly higher in diabetics when compared to controls. FBS, HBA1C, LDL, TG, insulin, HOMA-IR, QUICKIE and TIG2 were significantly higher and HDL was significantly lower in diabetics compared to controls. In Spearman's correlation analysis. TIG2 correlated positively with age ($r = 0.300$, $p = 0.007$), WHR ($r = 0.250$, $p = 0.026$), weight ($r = 0.270$, $p = 0.016$), BMI ($r = 0.364$, $p = 0.003$), BF% ($r = 0.325$, $p = 0.003$), fat mass ($r = 0.250$, $p = 0.026$), Visceral fat ($r = 0.356$, $p = 0.001$) and truncal fat mass ($r = 0.249$, $p = 0.027$), serum basal insulin ($r = 0.354$, $p = 0.001$) and HOMA IR ($r = 0.275$, $p = 0.015$), while it correlated inversely with QUICKI ($r = 0.$-283, $p = 0.012$). In multiple linear regression analysis body age ($r = 0.236$, $p = 0.023$), BF% ($r = 0.265$, $p = 0.014$) and basal insulin ($r = 0.265$, $p = 0.014$) levels were independent predictors of TIG2. Serum TIG2 levels are elevated in patients with type 2 DM compared to healthy control subjects and are positively correlated with adiposity and insulin resistance in Saudi adult women with type 2 DM. Our study indicates that the determination of body fat may have a key role in prediction and detection of the increased cardiometabolic risk in Type 2 DM.

Award lecture
AL FAGIH PRIZE SESSION

26. Cardiovascular risk assessment for Saudi university employees and their families: developing a framework for provision of an evidence-based cardiovascular disease preventative programme.

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In the Kingdom of Saudi Arabia (KSA), cardiovascular diseases (CVDs) are the primary cause of death among adults, representing 46% of total mortality in 2014. This study's objectives were to assess the prevalence of cardiovascular risk factors (CVRFs), and calculate the cardiovascular risk (CVR) among King Saud University employees and their families. Moreover, it aimed at assessing the possible effects of living in KSA on the heart health of expatriate employees and their families. A cross-sectional study was conducted on 4500 university employees and their families aged $\geqslant$18 years old, using the World Health Organization STEPwise approach to surveillance of CVRFs. CVR was then calculated for participants using the Framingham Coronary Heart Risk Score calculator. The mean age of participants was 39.3±13.4 years. The prevalence of CVRFs was as follows: low fruit/vegetable consumption of <5 portions/day

(88%), physical inactivity (77%), overweight/obesity (BMI $\geqslant$ 25 kg/m^2 and $\geqslant$30 kg/m^2 respectively, 72%), obesity (36%), abdominal obesity measured by WHtR (59%), dyslipidaemia (22–37%), diabetes (22%), hypertension (22%) and current tobacco use (12%). One quarter of the participants were estimated to have >10% risk to develop CVD within the following 10-years. Furthermore, this study showed that expatriates had significant negative effects on behavioural risk factors after residing in KSA, namely: high rate of physical inactivity, high consumption of fast food, low consumption of fruit and vegetable. However, there was no effect on the pattern of tobacco use. The prevalence of CVRFs is substantially high among the study population. To combat the future expected burden of CVDs, a proposed prevention programme for employees' cardiovascular wellness is designed and recommended to be implemented and institutionalized within the university.

27. The impact of introduction of code-stemi program on clinical outcomes of acute st-elevation myocardial infarction (stemi) patients undergoing primary pci: Single center study in Saudi Arabia

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This study was conducted to evaluate the effect of direct Emergency Department activation of the Catheterization Lab on door to balloon (D2B) time and outcomes of acute ST-elevation myocardial infarction (STEMI) patients in King Khalid University Hospital (KKUH). Establishing dedicated comprehensive STEMI programs aiming at reducing door to balloon time will impact favourably the outcomes of patients presenting with acute STEMI. This was a retrospective cohort study that involved 100 patients in KKUH who presented with acute STEMI and underwent primary percutaneous intervention (PPCI), between June 2010 and January 2015. The cohort was divided into two groups, the first group consisted of 50 patients who were treated before establishing the Code-STEMI protocol, whereas the second group were 50 patients who were treated according to the protocol, which was implemented in June 2013. Code-STEMI program is a comprehensive program that includes direct activation of the cath lab team using a single call system, data monitoring and feedback, and standardized order forms. The mean age in both groups was 54 ± 12 years and 86% (43) and 94% (47) of the patients in the two groups were males, respectively. 90% (90) of

patients in both groups had one or more comorbidities. Code-STEMI group had a significantly lower D2BT with 70% of patients treated within the recommended 90 minutes (median = 76.5 min, IQR: 63–90 min) compared to only 26% of pre code-STEMI patients (median = 107 min, IQR: 74–149 min) In-hospital complications were lower in the Code-STEMI group; however, the only statistically significant reduction was in non-fatal re-infarction, (8% vs. 0%, $p = 0.043$). In addition, the number of patients with more than one in-hospital complications was also reduced by 20%.Implementation of direct ER-Catheterization lab activation protocol was associated with a significant reduction in D2B time, and an overall improvement of in-hospital outcomes.

28. Validity of three risk stratification systems in a Saudi population

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Coronary artery disease (CAD) is the leading cause of death worldwide. Although there are a number of algorithms in use for determining risk and thus predicting future cardiovascular events, the data available regarding their validity among the Saudi population are insufficient. We studied the validity of three clinical score systems that are used to define high-risk patient groups: the American College of Cardiology/American Heart Association (ACC/AHA) Pooled Cohort Risk Equation, the Framingham risk score (FRS), and the European Systematic Coronary Risk Evaluation (SCORE).The new ACC/AHA Pooled Cohort Risk Equation can define high risk group among Saudi population better than the older risk stratification systems.We analyzed data from 462 patients aged $\geqslant$40 years with no previous history of CAD. High-risk features were a coronary calcium score (CCS) of $\geqslant$400 or, if the CCS was in the $\geqslant$75 percentile using Multi-Ethnic Study of Atherosclerosis (MESA) score. The scores for the three algorithms were then calculated using the participants' clinical data and lipid profiles, which had been obtained before performing computed tomography.In all, 87 (18.8%) patients were positive for coronary calcification. Among them, 60 (13%) were classified as being at high risk according to the MESA score. Analyzing these patients by The ACC/AHA Pooled Cohort Risk Equation resulted in 9 (15%) as being at low risk, 12 (20%) at intermediate risk, and 39 (65%) at high risk. The FRM risk classification resulted in 14 (23%) being at low risk, 13 (22%) at intermediate risk, and 33 (55 %) at high risk. The SCORE risk classification showed 24 (40%) at low risk, 12 (20%) at intermediate risk, and 24 (40%) at high risk, with P<0.0001.shown in the figure below.The ACC/AHA Pooled Cohort Risk Equation defined the higher risk group of patients in the Saudi population significantly better than the other two risk-score algorithms.