SELECTED ABSTRACTS FROM PUBMED

1. *Sepehri Z, Kiani Z, Nasiri AA, Kohan F.* Toll-like receptor 2 and type 2 diabetes. Cell Mol Biol Lett. 2016 Jul 28;21:2. doi: 10.1186/s11658-016-0002-4. eCollection 2016.

ABSTRACT

Innate immunity plays a crucial role in the pathogenesis of type 2 diabetes and related complications. Since the toll-like receptors (TLRs) are central to innate immunity, it appears that they are important participants in the development and pathogenesis of the disease. Previous investigations demonstrated that TLR2 homodimers and TLR2 heterodimers with TLR1 or TLR6 activate innate immunity upon recognition of damage-associated molecular patterns (DAMPs). Several DAMPs are released during type 2 diabetes, so it may be hypothesized that TLR2 is significantly involved in its progression. Here, we review recent data on the important roles and status of TLR2 in type 2 diabetes and related complications.

Keywords: Activator protein 1; Complication; DAMP; Innate immunity; Leucine-rich repeats; MYD88; NF-kB; PAMP; TLR2; Type 2 diabetes.

2. *Cediel G, Carrasquer A, Sánchez R, Boqué C, González Del Hoyo M, Bardaji A.* Elevated troponin I level in patients discharged home directly from the emergency department: prognostic value for 1-year mortality. Emergencias. 2016 Oct;28(5):298-304.

ABSTRACT

Objectives: To study the prognostic role of elevated troponin I levels in patients discharged home directly from a hospital emergency department.

Material and Methods: Observational study of a retrospective cohort of all patients attended for any emergency for whom troponin I tests were ordered and who were discharged home directly from our hospital emergency department between January and December 2012. We collected demographic information, medical histories, symptoms related to the acute coronary event, and diagnosis on discharge. The main outcome was all-cause mortality in the year following discharge.

Results: A total of 1381 patients discharged home directly from the emergency department were studied; 1192 (86.3%) had normal troponin I results and 189 (13.7%) had elevated levels. On multivariate analysis, troponin I elevation emerged as an independent risk factor for death within a year of discharge (hazard ratio, 2.41; 95% CI, 1.40-4.22; P<.01).

Conclusion: A raised troponin I level is an independent predictor of 1-year mortality in patients for whom this test is ordered at least once and who are discharged home directly from a hospital emergency service.

Keywords: Emergency health services; Prognosis; Troponin I; Urgencias

3. *Fan MH, Huang BT, Tang YC, Han XH, Dong WW, Wang LX.* Effect of individualized diabetes education for type 2 diabetes mellitus: a single-center randomized clinical trial. Afr Health Sci. 2016 Dec;16(4):1157-1162. doi: 10.4314/ahs.v16i4.34.

ABSTRACT

Background: To evaluate the effect of individualized education for patients with type 2 diabetes mellitus (T2DM).

Methods: A total of 280 patients (158 males, mean age 63 ± 10 years) with T2DM were randomly divided into study and control group. Eysenck Personality questionnaire was used to assess the personality of the patients in the study group, which was provided us one-on-one counseling and individualized management plan. Group education was provided to the control group.

Results: At the end of the study, the body mass index (21.5±2.5 vs 23.6±1.6 kg/m^2, P =0.002), waist circumference (83.7±6.4 vs 85.7±7.7 cm, P =0.03), fasting blood glucose (6.0±0.8 vs 6.9±2.1 mmol/L, P =0.004), HbA1c (6.2±0.6% vs 6.9±3.1%, P =0.03), systolic blood pressure (130.1±8.8 vs 135.1±8.4 mmHg, P =0.003),triglyceride (1.21±0.66 vs 1.46±0.58 mmol/L) and low-density lipoprotein (2.36±0.44 vs 2.84±0.64 mmol/L, P =0.03) in the study group was lower than in the control group.

Conclusion: Individualized diabetes education is more effective than group education in facilitating the control of type 2 diabetes.

Keywords: Individualization; blood glucose; blood pressure; health education; type 2 diabetes.

4. *Ferreira RM, de Souza E Silva NA, Salis LHA, Maia PD, Horta LFB.* Troponin I elevation after elective percutaneous coronary interventions: Prevalence and risk factors. Indian Heart J. 2017 May-Jun;69(3):322-324. doi: 10.1016/j.ihj.2016.11.319. Epub 2016 Dec 8.

ABSTRACT

Troponin elevation after coronary angioplasty is a prognostic marker associated with significant morbidity and mortality, although its prevalence varies according to clinical and procedural characteristics. We analyzed the frequency of post-procedural enzyme elevation among 112 elective interventions between 2013 and 2014 in a private hospital in Brazil. Troponin increase was observed in 62.5% of the procedures, and was related to age, female sex, low pre-procedural hemoglobin, prior angiotensin converting enzyme inhibitor or angiotensin receptor blocker use and multivessel angioplasty. PCI is not a risk free procedure and these results underscore the importance of a careful clinical assessment before its utilization.

Keywords: Coronary disease; Heart catheterization; Stable angina; Troponin.

5. *Van Brunt K, Pedersini R, Rooney J, Corrigan SM.* Behaviours, thoughts and perceptions around mealtime insulin usage and wastage among people with type 1 and type 2 diabetes mellitus: A cross-sectional survey study. Diabetes Res Clin Pract. 2017 Apr;126:30-42. doi: 10.1016/j.diabres.2016.12.002. Epub 2016 Dec 18.

ABSTRACT

Aims: People with diabetes who use mealtime insulin (MTI) were surveyed about insulin wastage and injection habits when insufficient insulin remains in a disposable prefilled pen/cartridge to administer a full dose in a single injection.

Methods: Cross-sectional, online, self-reported survey of MTI usage/wastage behaviour in 400 adults with type 1 (n=120) or type 2 (n=280) diabetes mellitus administering >20units/day of MTI via 100units/ml prefilled pens/cartridges for ☐1month, conducted in France, Germany, Italy and UK.

Results: Participants' mean±standard deviation age was 54.5±12.2years, body mass index was 29.9±7.2kg/m^2 and duration of MTI therapy was 8.6±7.8years. They administered 3.7±5.9 injections/day with meals, using 11.3±18.0 prefilled pens/cartridges per month. Overall, 63.5% split the dose across two prefilled pens/cartridges (i.e. administered two injections to obtain a full dose), 15.0% used just what remained in their current pen (i.e. took a lower-than-prescribed dose) and 36.3% discarded prefilled pens/cartridges still containing insulin (i.e. took full dose with new pen). The latter participants discarded a mean 5.5±8.2 prefilled pens/cartridges monthly still containing insulin, each containing 8.6±8.7 units of insulin. Participants who wasted insulin considered it frustrating, time-consuming and painful to inject twice.

Conclusions: Patients taking >20units/day MTI can find transitions between insulin pens challenging. This study highlights the need to identify ways of improving transitions between pens to make transitions easier for insulin users, which could potentially improve adherence to prescribed doses and reduce waste.

Keywords: Mealtime insulin; Patient-reported outcomes; Rapid-acting insulin; Type 1 diabetes; Type 2 diabetes; Wastage.

6. *Gul C, Marwat ZI, Israr M, Hanif R, Arshad M*. C-Reactive Protein Level In Coronary Artery Disease And Its Correlation With Serum D-Dimer. J Ayub Med Coll Abbottabad. 2016 Oct-Dec;28(4):725-729.

ABSTRACT

Background: C-reactive protein concentration has continuous associations with risk of coronary artery disease, ischemic stroke and death from several cancers. In addition, several studies have shown that CRP could be used to predict first ever myocardial infarction and stroke in healthy subjects, as well as outcome in acute setting. High levels of another biomarker, D-dimer, have been found to be independently associated with occurrence of coronary events.

Methods: This correlational study was carried out at the Department of Cardiology, Ayub Teaching Hospital Abbottabad, in collaboration with the department of Biochemistry Postgraduate Medical Institute Lahore from 15th July 2013 to 15th May 2014. Patients aged 30 years or more of either gender having coronary artery disease was included in the study. Their serum D-dimer levels and C-reactive protein levels were measured for correlation with coronary artery disease.

Results: A total of 50 patients of CAD were included in this study. Out of these 30 (60%) were males and 20 (40%) were females. Elevated CRP levels and D-dimer levels were noted in all of these patients. Pearson correlation coefficient test was performed on both CRP and D-dimer levels. Pearson correlation coefficient was calculated to be r= -0.1522 and when a p value was calculated, it was found to be 0.292 which implied that the results were not significant.

Conclusions: This study showed that there is no correlation between CRP levels and D-dimer levels in patients with Coronary Artery Disease.

Keywords: CRP; Coronary Artery Disease; D-dimers; Diabetes Mellitus; Hypertension; Smoking.

7. *Weiss P, Kryger M, Knauert M*. Impact of extended duty hours on medical trainees. Sleep Health. 2016 Dec;2(4):309-315. doi:

10.1016/j.sleh.2016.08.003. Epub 2016 Oct 24.

ABSTRACT

Many studies on resident physicians have demonstrated that extended work hours are associated with a negative impact on well-being, education, and patient care. However, the relationship between the work schedule and the degree of impairment remains unclear. In recent years, because of concerns for patient safety, national minimum standards for duty hours have been instituted (2003) and revised (2011). These changes were based on studies of the effects of sleep deprivation on human performance and specifically on the effect of extended shifts on resident performance. These requirements necessitated significant restructuring of resident schedules. Concerns were raised that these changes have impaired continuity of care, resident education and supervision, and patient safety. We review the studies on the effect of extended work hours on resident well-being, education, and patient care as well as those assessing the effect of work hour restrictions. Although many studies support the adverse effects of extended shifts, there are some conflicting results due to factors such as heterogeneity of protocols, schedules, subjects, and environments. Assessment of the effect of work hour restrictions has been even more difficult. Recent data demonstrating that work hour limitations have not been associated with improvement in patient outcomes or resident education and well-being have been interpreted as support for lifting restrictions in some specialties. However, these studies have significant limitations and should be interpreted with caution. Until future research clarifies duty hours that optimize patient outcomes, resident education, and well-being, it is recommended that current regulations be followed.

Keywords: Accreditation Council for Graduate Medical Education; Duty hour; Fatigue; Medical education; Medical trainees; Resident; Sleep deprivation.

8. *Hafeez A, Hussain Shah SM*. Impact of Socio-Economic Status on Determinants of Medical Career. J Ayub Med Coll Abbottabad. 2016 Jul-Sep;28(3):562-567.

ABSTRACT

Background: Research on determinants of Medical profession has established some constant factors with universal impact and appeal. However, the dramatic changes in the dynamics of medical profession and medical education over the past years have necessitated a revisiting of the established conclusions. The knowledge of impact of economic status on these determinants would pave way to greater interest and research on the subject, especially in Hazara Division where it is practically nonexistent.

Methods: This exploratory research followed deductive-inductive approach and was conducted upon 550 respondents from four public and private colleges in Hazara Division. Extensive study of related literature yielded 20 broad determinants of medical career. Pre-research pilot testing verified the reliability of a self-designed instrument. The data collection method adopted was a single shot survey. Personal data of respondents was collected during administration of the instrument. The sample was extracted through systematic random sampling technique giving due weight to proportional representation of each college as well as to the gender distribution.

Results: The results revealed a significant difference in the impact of reassuring social

perceptions and social status and prestige of medical profession between upper middle class and lower middle class. The results also showed that the students of upper middle class faced significantly greater domestic and familial pressure to enter the medical profession than those from lower middle class.

Conclusions: The findings showed that the upper middle class is under greater influence of societal forces and wider impressions about the medical profession. The students hailing from upper middle class enter the Medical career motivated by urge for social status and prestige and are most compelled by domestic and familial pressures to enter medicine.

Keywords: Career choice; Determinants; Economic status; Medical career.

9. *Pokorney SD, Kim S, Thomas L, Fonarow GC, Kowey PR, Gersh BJ, Mahaffey KW, Peterson ED, Piccini JP; Outcomes Registry for Better Informed Treatment of Atrial Fibrillation (ORBIT-AF) Investigators*. Cardioversion and subsequent quality of life and natural history of atrial fibrillation. Am Heart J. 2017 Mar;185:59-66. doi: 10.1016/j.ahj.2016.10.018. Epub 2016 Oct 29.

ABSTRACT

Cardioversion is a class I procedure for patients with symptomatic atrial fibrillation (AF) pursuing rhythm control. There are few contemporary reports on quality of life and outcomes after cardioversion.

Methods: Using the nationwide prospective ORBIT-AF registry, cardioversion patients were propensity matched 3:1 to noncardioverted patients and Cox proportional hazards modeling evaluated hospitalization at 1 year in those with and without cardioversion. Cardiovascular outcomes, AF progression, and quality of life were evaluated for the matched cohorts with and without cardioversion.

Results: Among 9,642 patients, 817 patients (8%) underwent 906 cardioversions during a median follow-up of 12 (interquartile range 6-18) months. Among matched cardioverted and noncardioverted patients, 1-year cardiovascular hospitalization rates were 43% vs 21% (adjusted hazard ratio 2.2, 95% CI 1.8-2.8, P<.001), and sinus rhythm at both first and second follow-ups was 36% vs 27% (P=.042), respectively. Findings were similar among first-time cardioversion patients. Matched cardioversion patients did not exhibit greater symptom improvement (34% vs 42%) or less symptomatic progression (15% vs 4%) by European Heart Rhythm Association scores. Cardioversion was associated with AF progression with an odds ratio of 1.6 (95% CI 1.2-2.2, P=.001) after cardioversion and 2.7 (P<.001) after first cardioversion vs matched noncardioversion patients. After cardioversion, only 18% of patients not previously on an antiarrhythmic started one, less than 5% underwent ablation, and 22% stopped their antiarrhythmic.

Conclusions: Cardioversion was not associated with improved AF-related quality of life or less progression. Many patients who undergo cardioversion do not receive adjunctive rhythm control therapies. These findings may help to better inform therapeutic decision making.

10. *Gul I, Zungur M, Aykan AC, Gokdeniz T, Alkan MB, Sayin A, Islamli A, Bilgin M, Kalaycioğlu E, Turan T*. The change in right ventricular systolic function according to the revascularisation method used, following acute ST-segment elevation myocardial infarction. Cardiovasc J Afr. 2016 Jan-

Feb;27(1):37-44. doi: 10.5830/CVJA-2015-077.

ABSTRACT

Objective: The level of right ventricular (RV) systolic function has prognostic importance in right ventricular ST-segment elevation myocardial infarction (RV-STEMI). This study aimed to evaluate the changes in RV systolic function in patients with RV-STEMI according to the revascularisation method used for their management.

Methods: The first group consisted of 132 patients who received primary percutaneous coronary intervention (PPCI). The 78 patients who had received thrombolytic therapy (TT) in external centres before referral to our centre for PCI within three to 12 hours of RV-STEMI were included in the second group. All patients were evaluated by conventional and two-dimensional speckle-tracking echocardiography.

Results: There were 172 male patients and their mean age was 63.7 ± 11.8 years. There were no significant differences between the two groups with regard to right ventricular systolic parameters at admission and at the one-month follow-up visit. The echocardiographic changes between admission and the one-month follow up were investigated for the patients included in the study groups. Mean values of each parameter observed at the one-month follow up were significantly increased compared to those at admission within each group.

Conclusion: Our study demonstrated that PCI within three to 12 hours following TT provided similar benefits on right ventricular systolic function compared to PPCI in patients with RV-STEMI.

11. *Tao L Ma JL, Chen L.* Research Progress on Estimation of Early Postmortem Interval. Fa Yi Xue Za Zhi. 2016 Dec;32(6):444-447. doi: 10.3969/j.issn.1004-5619.2016.06.013. Epub 2016 Dec 25.

ABSTRACT

Estimation of postmortem interval （PMI） is very important for judging the nature of cases, restricting the scope of investigation and suspect, which is always the emphasis and difficulty for forensic pathology. Early postmortem interval is the time between 0 and 24 hours after death. Due to the shorter time after the case occurred, precisely estimating early postmortem interval can help solve crimes, which has important significance in forensic medicine. In recent years, series of advanced methods and technologies are used to estimate the early PMI by the internal and overseas scholars who work in the forensic area. This paper reviews the research progress on fluids biochemistry, supravital reactions, metabolomics, imageology and the degradation rule of genetic material to provide a new idea to the study and application for estimation of early PMI.

Keywords: Biochemistry; Early Postmortem Interval; Forensic Pathology; Metabolomics; Molecular Biology; Review; Supravital Reaction.