



# Research Newsletter Special Issue 1

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ISNC-Research Center  
IBN SINA NATIONAL COLLEGE |

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## From the Editor In-chief

Greetings to all valued readers of the ISNC-RC Newsletter. I am glad to present to you this dedicated special issue on the Second ISNC Research Conference. This publication very lucidly yet succinctly encapsulates the hard efforts of our faculty and associated students in materializing their research endeavors.

Abstracts in the following pages shall quickly apprise you the variety and depth of original research work carried out by our colleagues. The collection herein comprises of 40 original works and 31 case reports besides 5 comprehensive review articles. In all, it's a well-rounded effort on the part of ISNC fraternity to keep the research engine chugging along the mission line!!!

As always, please do share your opinions and feelings on this humble attempt of the Research Center publication. It will only further encourage and strengthen the future output, God Willing.

*Dr. Shabbir Ahmed Sayeed*

## Director of Ibn Sina National College- Research Center

Dear colleagues it's a great pleasure to launch the special issue of ISNC-RC's newsletter, this special issue is the culmination of ISNC's Annual Scientific Conference (ISNC-ASC). This year's conference we broadened the outreach and the participation in our conference to include public and private health science universities and colleges of Makkah region.

This special issue is a collection of conference presentation abstracts of in the 2<sup>nd</sup> ISNC-ASC. It showcases the research of ISNC and other universities and colleges of Makkah region. It is noteworthy, the abstracts in this special issue demonstrate the heights scaled by research at ISNC. We sincerely hope you like this 1<sup>st</sup> special issue of the newsletter as much as we enjoyed compiling it for you.

*Dr. Irfan Adil Majid*

## Original Research

### Prevalence of the Clinical and Immunologic Manifestations of Antiphospholipid syndrome in King Abdul-Aziz Medical City (KAMC), Jeddah-Saudi Arabia (KSA)

Hassan Jamal H Alduhailib

**Introduction:** Antiphospholipid syndrome (APS) is an autoimmune disease, associated with recurrent miscarriages and venous or arterial thrombosis. Antiphospholipid antibodies namely lupus anticoagulant (LAC), anti- $\beta 2$  glycoprotein antibodies ( $\beta 2$ -GPI), and anticardiolipin antibodies (ACA), are significant laboratory evidence of APS. Research exploring the prevalence of manifestations of APS in KSA has been limited and to our knowledge, no major studies were conducted in KSA.

**Objective:** To determine the prevalence of the different clinical and immunologic manifestations of APS among patients at King Abdulaziz Medical City -Jeddah, from January 1st 2001 until the 30th of June 2016.

**Method:** This study was a cross-sectional chart review, convenience sampling was used. 320 files were reviewed and 80 patients were included as they fulfilled the Sapporo APS criteria. Collected data were entered and processed by SPSS 20

**Results:** A total of 52(65%) patients were diagnosed with primary APS, 28 (35%) with secondary APS. Secondary APS was associated with SLE in 89.28%. Among females, the most common presentation was recurrent miscarriages (41.7%). However, among all patients, the most common presentation was deep venous thrombosis (30%). ACAs were detected in 65 patients (81.3%), LAC was detected in 29 patients (36.3%), and  $\beta 2$ -GPI antibodies were detected in 3 patients (3.8%).

**Conclusion:** Prevalence of the clinical and immunologic manifestations in this study was consistent with the

previous literature. However, pregnancy morbidity was found to be more prevalent in this study compared to international literature.

### Can Ki-67 Predict Pelvic Node Status in Endometrial Adenocarcinoma?

Bushra Alahmadi, Umm al Qura University

**Background:** The Ki-67 marker is a nuclear-protein that has a direct correlation with the degree of cells proliferation that often expressed in human neoplasm. **Objective:** To evaluate Ki-67 expression as predictor for pathological nodal positivity in endometrioid-adenocarcinoma (EA).

**Design:** Retrospective-Case control study.

**Method:** Twelve histopathological slides evaluated for patients with EA of the uterus for Ki-67 expression. Defined as Ki-67 stained >50% of tumor cells. **Outcome measures:** Correlation of Ki-67 high-expression rates and pelvic node positivity in EA.

**Results:** Rate of high-expression of Ki-67 in tumor cells among cases with positive lymph-nodes vs controls were significantly higher (83% vs 17%), (p-value=0.04). On multivariate analysis high-expression of Ki-67 continued to be independent predictor for lymph-node positivity (p=0.02).

**Conclusions:** Ki-67 high-expression plays an important role as predictor for lymph-node positive in EA and can be utilized for preoperative or postoperative risk-assessment to predict lymph-node metastasis for cases with borderline indications for postoperative pelvic irradiation. Further prospective larger study is needed to validate this preliminary data.

### Timing of First Dose of Antimicrobial Therapy and Its Impact on Critically Ill Patients with Severe Sepsis and Septic Shock

Rugaan A , Sodany I, Bhatti S , Malaka L, Alshahfi I, Fatani E, Alharbi A, Hafiz S

**Background:** In recent years, there is a dramatic rise of critical care admissions. Most of the patients come to ICU with a provisional diagnosis of sepsis or septic shock. Appropriate antibiotics play a critical role in the treatment of septic patients. We conducted a retrospective study to evaluate the impact of timing of antibiotics in septic patients.

**Design & Methods:** This study was conducted in the ICU at KAMC. We did a retrospective chart review of patients admitted to the ICU with the diagnosis of sepsis/septic shock from January to May 2016.

**Results:** A total of 94 patients were identified with sepsis/septic shock, who met our inclusion criteria. We found that the median time for the 1<sup>st</sup> dose of antibiotic administration from sepsis recognition is 191 minutes. Further analysis revealed that the median time from sepsis recognition to physicians order is 25 minutes, while the median time from antibiotics order to administration to patients was 110 minutes. Additionally, we found that 37.4% of patients received their first dose of antibiotics within an hour, while 62.6% received it after an hour of the recognition of sepsis/septic shock. The mortality outcome for patients who received antibiotics within one hours of sepsis recognition was 33% versus patients who received antibiotics after one hours was 66%. The median length of ICU stay for patients who received antibiotics within the 1<sup>st</sup> hour was 6 days versus those who received after the 1<sup>st</sup> hour was 8 days.

**Conclusion:** Early administration of appropriate antibiotics within the 1<sup>st</sup> hour of sepsis recognition is associated with a trend towards mortality reduction as well as shorter ICU length of stay. The delay in the 1<sup>st</sup> dose of antibiotic administration was mostly related to

medication processing, which needs to be taken into consideration for providing the 1<sup>st</sup> dose of antibiotic in patients with sepsis or septic shock.

### Kinetics of the Oxidation of Malic Acid by Water Soluble Colloidal MnO<sub>2</sub> in Presence of Nonionic Surfactant (Tween-80).

S. M. Shakeel Iqbal<sup>1, \*</sup>, Tasneem Mohammed<sup>1</sup>, Santimoy Khilari<sup>2</sup>

<sup>1</sup> Department of Basic Science (Chemistry), Ibn Sina National College, Jeddah (Saudi Arabia).

<sup>2</sup> Department of Material Science Centre, Indian Institute of Technology, Kharagpur -721302 (India).

**Introduction:** The kinetics of the oxidation of Malic acid by water soluble colloidal manganese dioxide has been studied spectrophotometrically in presence of perchloric acid at 30 °C in presence of nonionic Surfactant (Tween-80). The reaction–time curves suggest the involvement of non-autocatalytic and autocatalytic reaction paths. In presence of surfactant the reaction follows first-order kinetics with respect to colloidal MnO<sub>2</sub> and malic acid. The reaction has acid-dependent and acid-independent paths and in the former case, the order is fractional in [H<sup>+</sup>]. Addition of surfactant (Tween-80) a nonionic surfactant catalyses the reaction which is explained on the basis of hydrogen bonding between the oxygen of polyoxyethylene chain of Tween-80 and hydroxy groups of malic acid / colloidal MnO<sub>2</sub>. On the basis of the observed results, a mechanism in accordance with the experimental has been proposed and discussed. Nonionic Surfactant (Tween-80) showed catalytic effect by bringing the reactants closer due to multiple hydrogen bonding.

### Kinetics of the Reduction of Water Soluble Colloidal MnO<sub>2</sub> by DL- Tartaric Acid in Presence of Tween-80 Surfactant.

S. M. Shakeel Iqbal<sup>1</sup>, Areej Dawoud, Aejaz Khan and Sumanta Bandopadhyay<sup>2</sup>

<sup>1</sup> Department of Basic Science (Chemistry), Ibn Sina National College, Jeddah (Saudi Arabia).

<sup>2</sup> Department of Surface Science, Jadavpur University, Kolkata - 700032(India).

The kinetics of the reduction of water soluble colloidal manganese dioxide by DL-Tartaric acid has been studied spectrophotometrically in presence of perchloric acid at 30 °C in presence of Tween-80. The reaction–time curves suggest the involvement of non-autocatalytic and autocatalytic reaction paths. In presence of surfactant the reaction follows first-order kinetics with respect to colloidal MnO<sub>2</sub> and DL-Tartaric acid. The reaction has acid-dependent and acid-independent paths and in the former case, the order is fractional with respect to [H<sup>+</sup>]. Addition of Tween-80 surfactant catalyses the reaction which is explained on the basis of hydrogen bonding between the oxygen of polyoxyethylene chain of Tween-80 and hydroxy groups of DL-Tartaric acid / colloidal MnO<sub>2</sub>. The kinetic data are rationalized in terms of model proposed by Tuncay et al. On the basis of the observed results, a mechanism in accordance with the experimental has been proposed and discussed. Tween-80 a nonionic Surfactant showed catalytic effect by bringing the reactants closer due to multiple hydrogen bonding.

### **Study on the respiratory disorders, pulmonary function, computed tomography (CT) of the chest, and serum oxidative stress status among silica exposed workers**

Fathi E-Gamal<sup>1</sup>, Heba Hafez<sup>2</sup>, Bahiga Hafez<sup>3</sup>, Dorria Meleis<sup>4</sup>, Ola Al-Sharaky<sup>5</sup> and Yacout Mohammed<sup>6</sup>.

1: Family medicine department, ISNC, Jeddah, KSA; 2-4: Department of occupational medicine; 5: Department of clinical pathology; 6: Department of Diagnostic radiology Alex. University, Egypt.

Background: Silicosis is a fibrogenic, progressive lung disease is one of the most important occupational diseases, in which the actual pathogenesis is still vague. Aim of the work: To determine whether oxidative-stress damage play an important role in the mechanism of silicosis, and reveal type of respiratory disorders and lung function and imaging abnormalities associated with silicosis.

Subjects and methods: This is a cross section study, included 300 silica exposed workers and a 100 non-exposed workers. All workers were subjected to MRC questionnaire on respiratory symptoms, anthropometry, forced spirometry, and CXR CT was conducted on a subsample of 20 silica exposed workers. Serum level of lipid peroxidation, malonyldialdehyde (MDA), plasma advanced oxidative protein product (AOPP), and glutathione (GSH) were analyzed on subsample of 60 subjects.

Results and conclusions: 38% of silica exposed workers had radiological abnormalities consistent with silicosis. They had significantly more cough and dyspnea, lung function abnormalities consistent with restrictive impairment compared to other workers. They showed, also, significantly higher levels of AOPP and MDA, and significantly lower level of GSH, compared to normal and non-silicotic exposed workers. These results confirmed the role of oxidative stress in the mechanism of silicosis. Therefore, effective antioxidant therapy for inhibiting oxidative stress may be a therapeutic option in silicosis.

### **Survival Outcome of Lung Metastasectomies in Patient Treated at Princess Norah Oncology Center**

Samar Saud Alsifri, Alhanouf Ibrahim Alhusani, Khawlah Mohammed khairi Fairaq, Leema Khalid Alhussayen, Ibn Sina National College for Medical Studies, Jeddah, Saudi Arabia

The current study aims to evaluate the effectiveness of lungmetastasectomy (LM) on survival rate among different primary tumors, and the prognostic factors that have a significant effect on it. The study retrospectively reviewed the data of patients who underwent LM, in the period from 2007-2016. Total of 42 patients were reviewed. The mean age at diagnosis of metastasis was 40.21(+)-19.8 years. 52.4 % (n=22) of the patients diagnosed with sarcoma, 38.1 % (n=16) colorectal, 5 % (n=2) for each of breast and renal cell carcinoma. No patients were found with germ cell tumor. The overall five years survival rate was 19%. Survival rate of sarcoma had median of 27.63 month (95% CI 25.70, 29.57). Most of colorectal cancer cases' still alive, so the median survival rate was not reached. None of the prognostic factors had significant effect on survival rate ( $p < 0.05$ ). Colorectal and sarcoma patients benefited the most from this procedure. Larger sample size can help further to determine the effect of the aforementioned prognostic factors.

### Structural and magnetic properties of RE (Ce and Sm) substituted cobalt ferrite nanoparticles.

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<sup>1</sup> Department of Basic Sciences, Ibn Sina National College, Jeddah, Kingdom of Saudi Arabia

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**Introduction:** Ferrites have wide range of applications in science and engineering such as sensors, actuators, waste water treatment, contrast agents, hyperthermia, and controlled drug delivery etc.

**Objectives:** To investigate structural and magnetic properties of RE (Ce, Sm) substituted Cobalt Ferrite,  $\text{CoCe}_x\text{Sm}_y\text{Fe}_{2-x-y}\text{O}_4$  nanoparticles synthesized by sol-gel auto combustion technique.

**Materials and Methods:** XRD, SEM, EDAX and FT-IR techniques used to confirm the Nano ferrite phase, VSM technique was used to investigate Magnetic properties.

**Results and Conclusions:** XRD pattern shows single nanophase spinel structure, x-ray density, lattice parameter and crystallite size were found. FTIR spectra shows two major bands  $\nu_1$  and  $\nu_2$  at 581 and 385  $\text{cm}^{-1}$  further confirms the spinel phase. SEM micrograph shows inhomogeneous grain distribution with some soft agglomerates, EDAX spectra shows the ratio of Co: Fe+RE equal to 0.5 as according to stoichiometry. The decreased magnetic moment by VSM studies suggest replacement of  $\text{Fe}^{3+}$  and  $\text{Co}^{2+}$  ions at B-sites are replaced by large  $\text{RE}^{3+}$  (Sm and Ce) ions. Coercivity and retentivity were found to be low compared to pristine cobalt ferrite. The squareness ratio was  $< 0.5$ , suggest that their magnetic properties can be tailored with RE substitution.

### Assessment of Customer Satisfaction and Patient Experience with the Clinical Laboratory Services Provided in King Abdullah Medical City, Makkah

Altaweel. N, Almatrafi. D, Abdelfattah. M, Alqazlan. M, Alomari. A, Yaseen. W, Alsulami. M, Abonaji. F, Derar. H.

**Background:** Patients and physicians are considered primary customers of laboratory services. Therefore, their satisfaction is an important evaluating indicator for the laboratory quality.

**Objectives:** This study measures the customer satisfaction and patient experience regarding laboratory services in KAMC to identify defects and suggest corrective actions.

**Methods:** Cross sectional satisfaction survey was conducted with physicians and patients who received phlebotomy services using 5-point Likert scale questionnaire.

**Results:** A total of 435 patients were interviewed and their mean satisfaction was  $4.51 \pm 0.32$  out of 5. Respondents were satisfied with the Availability of laboratory tests.

However, they were dissatisfied with Explanation of the phlebotomy cautions by the phlebotomist (75.4%).

Twenty eight percent of physicians (132) participated, their mean satisfaction rate was  $3.6 \pm 0.7$  out of 5. The greatest satisfaction rate was related to Notified in timely manner of all laboratory services. Physicians were most dissatisfied with the Specimen delivery process.

Conclusion: Both customers were satisfied with the laboratory service provided for them. Factors as "Explanation of the phlebotomy process by phlebotomist" and "specimen collection and delivery process" received lowest satisfaction score for patients and physicians respectively. Therefore, improving them is required to meet the needs of the customers and gain their satisfaction regarding the service.

### Cesarean section rate Among Women diagnosed With Fetal Growth Restriction

Zahra .M Almutawa, King Abdulaziz University, Afnan.Y Alamoudi, King Abdulaziz University.

Introduction: FetalGrowth Restriction (FGR) is associated with increased rate of maternal and perinatal mortality and morbidity. Stillbirth, neonatal death, neonatal morbidity, abnormal neurodevelopmental outcome, and cesarean delivery are more common in growth restricted fetuses than in those with normal growth.

Methods: Between January 1, 2014 to December 30, 2014 all pregnant women diagnosed as FGR between 37-40 weeks at King Abdulaziz Medical City – Jeddah were included in this retrospective study. Severe FGR was diagnosed as growth below the 3<sup>rd</sup> percentile. The primary outcome was the rate of cesarean section (CS) among women diagnosed to have severe and non-severe FGR. The rate of CS was also compared between women who underwent IOL versus those who had spontaneous labor. Finally The correlation and mean difference between EFW by U/S and actual birth weight was calculated.

Results: A total of 166 cases diagnosed as FGR were identified. The total CS rate was 18.7%. The CS rate in severe FGR was 32% compared to 14% in none-severe FGR with odds ratio of 2.96 and 95% confidence interval of ..... There was a positive trend in the rate of CS between induction of labor and spontaneous labor. There was a strong correlation between EFW by U/S and BW of 67%. The mean difference between EFW and BW was 70 g (CI)? Indicating U/S over diagnosis of IUGR.

Conclusion: The Rate of CS among severe FGR is significantly higher than none severe FGR.

### Relationship of exclusive breast-feeding to infections among Saudi Children

Abdel –Hamed MH, AlShehri Asma, AlShehriAsmahan,AlmuthannaSufana , Wafaaalobathani, 4<sup>th</sup> MBBS Student, Ibn Sina National College for Medical Studies.

Background: Infectious disease is a leading cause of morbidity and hospitalization for infants and children. During infancy, breast-feeding protects against infectious diseases, particularly respiratory infections, gastrointestinal infections, and otitis media. Little is known about the longer-term impact of breast-feeding on infectious disease in children.

Objectives: The study was designed to assess the effect of exclusive breast feeding (EBF) on reducing the risk of gastroenteritis and respiratory infections among Saudi infants and children in first six years of life Setting: Well baby clinics and Pediatric clinics in the Primary Health Care Centers and Hospitals in Jeddah

Patients and Methods: 400 Mothers in childbearing period aged between 15 to 45 years who attended Primary Health Care (PHC) Centers for child immunization surveyed during the period from February 2017 to April 2017. All mothers were subjected to questionnaire. Questionnaire included Questions related to date of birth, gender, birth order, consanguinity, socio-economic conditions, age of

mother, level of education of mother, occupation, formula feeding or breast feeding, details of breast feeding, times of previous hospitalizations, incident of diarrhea and respiratory infections and medications used during the interview. statistical methods were performed for statistical analysis using SPSS to examine associations of initiation, duration, exclusivity of breastfeeding, timing of supplementing breastfeeding with formula, and breast milk intensity with maternal reports of infection (cold/upper respiratory tract, ear, throat, sinus, pneumonia/lung, and urinary) and sick visits in the past year among 6-year-olds.

**Results and Conclusion:** This cross sectional study suggests that breastfeeding may protect against ear, throat, and sinus gastrointestinal infections during first year of life as well as beyond infancy.

### **Socio-demographic factors, schooling, and type of personality as predictors of scholastic achievement of private medical students**

Dr. Fathi El- Gamal<sup>1</sup>, Dr. Rashad AlKashgari<sup>2</sup> and Dr. Talal Al-Khatib<sup>3</sup>. Department of Family medicine, Head; 2: Department of surgery, the dean, Ibn Sina National college for medical studie (ISNC)s, Jeddah, KSA.; 3: Department of ENT, King Abdulaziz University, Vice dean medicine program, ISNC

**Background:** Understanding the factors influencing academic performance has always been a great concern for educational Researchers.

**Objectives:** This study was carried out to determine the relationship between socio-demographic characteristics, schooling, and types of personality as predictors of level of academic performance among medical sciences students in a private college

**Methods:** A cross section design with a convenient sample of 2,146 students, from the college were participated in this study. The questionnaire was distributed to all available students at the time of the study. The

questionnaire provided data on socio-demographic characteristics, schooling, last year GPA, and medical history, and the Big Five personality traits. Data were analyzed using SPSS/pc, IBM version 22. Chi square, Pearson correlation, multiple linear regressions, and factor analysis were employed, and  $\alpha$  was 0.05.

**Results:** Increased socioeconomic standard, and high rank of education and occupation of the father were significantly associated with increased GPA (> 3 from 5). Nonsmoking students, with high school grade point average, who lives with the family and study alone, and use the internet frequently for studying and recreation had significantly higher GPA more than 3. Multiple regression analysis reveals that females are good academic achievers than males. Personality of the student was an important determinant factor of academic achievement, and Agreeable personality trait was a significant predictor of high GPA.

**Conclusion:** High school grade point average, high family income, and agreeable personality trait are important criteria when selecting a student to study in a private medical college.

### **Study of Asthma Prevalence and Determinates Among Male Students Aged 21 to 27 Years Old at Ibn Sina National College and its Impact on Health.**

Prof. Fathi El-Gamal, Ammar Alansari.

**Introduction:** Within 2 million suffering bronchial asthma, it has been ranked as one of the most common chronic diseases in Saudi Arabia. The prevalence of asthma is high in 16 to 18 years old adolescents in Saudi Arabia. Asthma is a common chronic disorder of the airways, which characterized by airflow obstructions, bronchial hyper-responsiveness and underlying inflammation.

**Objectives:** To study the relation between the personal characteristics of the studied male and the occurrence of asthma.

**Methods:** A cross sectional study design, a convenient sampling technique, analyzed by SPSS program.

Results: From the 336 replies, we found 60 students (18%) had a history or were diagnosed with asthma. 47 of them were Saudi and 13 from other nationality.

Conclusions: There were significant correlation between asthma among who kept plants at home, exposed to pungent odors, dusty air, and has a family history of eczema.

### **School students awareness of Diabetes Mellitus in Jeddah City, Saudi Arabia**

Khamrunissa Sheikh, Soumya V. Ponnar, Krishna Kumar K, Nadreen Bahiker Mohammad

Background and Aim: Saudi Arabia is considered as the 7<sup>th</sup> highest rate in the world in terms of diabetes incidence, with about 3.4 million people having been diagnosed with diabetes. Saudi adolescents are at a high risk of developing diabetes as many suffer from obesity, a sedentary lifestyle and hereditary diabetes. This study aimed to evaluate the awareness and the knowledge of diabetes in adolescent about the disease which, will be of a great help to reduce the risk of developing diabetes and its complications.

Methodology: A cross-sectional study was conducted between November 2016 and February 2017 among 423 secondary school students from randomly selected schools in Jeddah, Saudi Arabia. An Arabic version of an adapted English language questionnaire was used to assess knowledge and attitudes related to diabetes.

Results: A total of 423 students participated in the study, including 223 (52.7%) from public and 200 (47.3%) from private schools. For "General knowledge about diabetes" section's scores were 63.0%, "Knowledge of risk factors of diabetes" 39%, "Knowledge of symptoms and complications" 46.8%, "Knowledge about treatment and management" 47.7%, and "Knowledge of monitoring diabetes" 49.3%.

Conclusion: The students contributed in this study have average general information about diabetes. An

alarmingly high number of students were unaware of DM associated risk factors. Raising adolescents' awareness about the primary prevention strategies for DM should be a public health priority in Saudi Arabia.

### **New Approaches in Design, Synthesis and Biological Activities of Non-Steroidal Anti-Inflammatory (NSAID) Drugs**

Khaled R. A. Abdellatif

Ibn Sina National College for Medical Studies, Jeddah, Saudi Arabia

Introduction: The anti-inflammatory activity of non-steroidal anti-inflammatory drugs (NSAIDs) arises from their ability to inhibit cyclooxygenase (COX) enzyme. Currently, it is well known that COX enzyme exists in at least two distinct isoforms, a constitutive form (COX-1) and an inducible form (COX-2).

Method: Selective inhibition of COX-2 isozyme afforded a useful drug design concept that resulted in the development of effective anti-inflammatory drugs that are devoid of adverse side effects, in particular gastrointestinal irritation, ulcerogenicity and renal toxicity attributed to inhibition of the cytoprotective COX-1 isozyme. Unfortunately, some selective COX-2 inhibitory drugs such as rofecoxib and valdecoxib are believed to be responsible for cardiovascular complications.

Results: Nitric oxide (NO) is an effective vasodilator that also inhibits platelet aggregation therefore, hybrid NSAIDs containing NO-donor moieties have been developed to obtain effective treatment of inflammation with reduced GI and cardiovascular side effects.

Conclusion: Here we report some of our promising recent advances in design, synthesis and biological activity of some hybrid NO-NSAIDs donor drugs.

### **Medication Waste Management among Saudi Population in Jeddah**

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**Introduction:** The kingdom of Saudi Arabia (KSA) divided into 13 regions which are of different development levels in terms of both population and public utility infrastructure. Health care wastes in Saudi Arabia generate a large percentage of the total expenditure on health care. Governments, healthcare providers and consumers must find ways to control these costs by working together to change some social and traditional feedings. Improper disposal of medication has several consequences such as childhood poisoning, environmental pollution, negative impact on ecosystem and antibiotic resistance. This study was conducted to identify the medication wastage extent in families in Jeddah, the main reasons leads to increase the medication wastage include expiration or deterioration (either chemically or physically) of the product.

**Method:** A questionnaire was performed and administered to 100 patients in different areas in Jeddah.

**Results:** A total of 100 patients completed the survey almost respondents had unused or expired medications, their most common method to get rid of un-used or expired medication through the garbage.

**Conclusion:** The study indicates that the need for education an appropriate method for disposal of unwanted medication and an organized method of collecting unused medication to be introduced.

### **The Reasons behind Poor Patient Compliance with Antibiotics: A Cross Sectional Study in Makkah Region (Makkah-Jeddah).**

Mohammed Alqashqari

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**Introduction:** Patient compliance describes the consistency and accuracy with which someone follow the regimen prescribed. The objective of this study is to identify and assess the factors that could contribute to poor patient compliance with antibiotics among the population of Makkah region (Makkah-Jeddah).

**Method:** 238 subjects from the population of Makkah region (Makkah-Jeddah) were given a detailed questionnaire evaluating their knowledge of Antibiotics, its usage, and the degree to which they adhere to the treatment regimen.

**Results:** In this population, 95.1% have used different types of antibiotics at some stage in their lives. For a minority of subjects (6.5%), the cessation of antibiotics regimen was due to the presence of allergy. Moreover, most of the subjects (n=175; 86% males and 89.9% females) have stopped the antibiotic regimen because they felt better, followed by the long duration of the treatment course (97%), while 6.7% of males and 43.3% of females could not continue due to side effects, 20.1% stopped due to frequency of doses and 25% stopped due to the taste of antibiotics.

**Conclusion:** Compliance with antibiotics therapy is significant for complete recovery, feeling better within a few days of initiating the regimen was the main reason of noncompliance.

### **Impact of Arthritis on Health Related Quality of Life**

Dr. Kayamkani Abedulla Khan, Ibn Sina National College for Medical Studies, Jeddah, Saudi Arabia

**Introduction:** Health-related quality of life (HRQoL) is an important outcome measure in chronic diseases like Arthritis. It is a multi-dimensional concept that includes domains related to physical, mental, emotional and social functioning. The aim of this study was to assess HRQoL

and to determine which factors contribute to the prediction of HRQoL among persons with Arthritis in India. Method: A cross-sectional design was used. Persons with Arthritis (N = 147) were recruited from the outpatient clinics of a tertiary care hospital in Hyderabad. Participants responded to AIMS2 instrument which is a 78 item questionnaire. The first 57 items are broken down into 12 scales: Mobility level, Walking and Bending, Hand and Finger Function, Arm Function, Self-Care Tasks, Household Tasks, Social Activity, Support from Family and Friends, Arthritis Pain, Work, Level of Tension and Mood. Item 58 concerns respondent satisfaction with each of the 12 health status scales. Item 59 ask respondents to report how much of their problem with any of these twelve areas is attributable to arthritis. Item 67 and 68 allow the patients to identify the type and duration of her/his arthritis. Item 69 provides an estimate of medication usage. Item 70-72 explores for comorbidity, and items 73-78 deal with demographics

Results: Scores on all 12 scales were significantly higher in patients with Arthritis (higher score indicates low health).. Lower self-efficacy, greater fatigue, greater functional disability, lower social support, being unemployed, higher disease activity, more comorbidities, lower income level, being female, living in rural settings, and being older were directly or indirectly significantly and negatively associated with HRQoL.

Conclusion: Patients with Arthritis in India experience impaired physical and mental health. Targeted and culturally sensitive interventions should be strengthened to improve the HRQoL of this population. Essentials in improving the HRQoL are enhancing self-efficacy, relieving fatigue, delaying the onset of disabilities, increasing social support, and controlling disease activity.

### **Pharmacist's Awareness on Evidence Based Practice (Ebp), In Western Region; Saudi Arabia: A Cross-Sectional Study**

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Introduction: The role of pharmacist is expanding to patient-focused care providers. Being updated and evidence-based is a key tool for effective pharmaceutical care services. The objective of this study is to accurately assess evidence based practice (EBP), pharmacist must understand the basic knowledge, know searching process, critically review and appraise professional literature.

Aim: To determine the attitude, knowledge, institutional support and barriers of pharmacists regarding EBP in western region of Saudi Arabia (KSA).

Method: This is a cross-sectional study where 188 questionnaires were distributed to the study subjects; hospital and community pharmacies, academic institution and others. Data was collected and analyzed by SPSS version 20.

Results: Participants showed positive attitudes toward EBP; more than 84% believe that EBP is helpful for patient care, knowledge update and has significant value in pharmacy practice, however, only 52% of pharmacists depend on or utilize EBP in their practice. But despite this positive attitude, pharmacists showed partial understanding of searching process. Overall, 68.6% of respondents relied on textbooks in making their decisions, 45.5 % depends on their own judgment and medical representatives. 59% of the respondents had learned EBP basics during their academic studies.

Conclusion: In spite of the positive attitudes toward EBP, this study showed barriers towards implementing EBP in

western region-KSA, which necessitate action by healthcare decision makers to formulate plan to overcome such barriers for improving quality of healthcare.

### Evaluation of Antidepressant Activity of Smilax Zeylanica Linn in Mice

Dr. Shaik Rasheed Ahamed, Ibn Sina National College for Medical Studies, Jeddah, Saudi Arabia

**Introduction:** Depression is a major clinical illness affecting 9.5% of population. Numerous antidepressant compounds are available. These drugs can produce many side-effects, Insomnia and loss of libido, tolerance and physical dependence. This necessitates the development of newer and more effective antidepressants from traditional medicinal plants. The present study was undertaken to evaluate the anti-depressive activity of Smilax zeylanica Linn in animal model

**Method:** Animals were divided into 5 groups (n = 6 /group): control (0.9% saline), the three doses of Smilax zeylanica (125, 250, 500 mg/kg) and Imipramine 10mg/kg for two weeks treatment. To assess the antidepressant effect of Smilax zeylanica Forced swimming test (FST) and Tail suspension test (TST) were used to take as a measure of antidepressant activity. The probable mechanism of action of the anti-depressive effect of Smilax zeylanica Linn was also investigated by measuring the levels of monoamines in the cortex, striatum, hippocampus and hypothalamus of the mice and MAO-A inhibition activity.

**Results:** Smilax zeylanica significantly reduced the immobility time of mice in both the FST and TST; it increased the levels of 5-HT in cortex, striatum, hippocampus, and hypothalamus, the level of NE in striatum and hippocampus, the level of DOPAC in hypothalamus, the level of 5-HIAA in striatum, and the level of DA in striatum, hippocampus, and hypothalamus.

**Conclusion:** After two weeks administration, Smilax zeylanica produced antidepressant-like effect. The

mechanism of action of antidepressive effect of Smilax zeylanica seemed to involve an increase of the monoamines levels.

### Hormonal therapy protocols applied in Saudi hospitals for treating breast cancer patients and the future of genetic testing aiming at optimizing the effect of the drug.

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**Introduction:** Our primary working hypothesis is that there is an association between genetic variations in drug metabolism and the response to hormonal therapy (tamoxifen) in breast cancer patients, so there is a need for it's consideration in hormonal therapy protocols. The purpose of this study is to investigate the association between genetic variation that affect the drug metabolism and hormonal therapy (tamoxifen) response in breast cancer patients to be used for further protocols improvement.

**Method:** Our questionnaire was distributed to 8 oncologists in government specialized hospitals, 3 oncologists in government general hospitals and 6 oncologists in private hospitals. 17 responses were received. Total 17 responses were completely filled by the oncologists and statistically analyzed.

**Results:** 41.2% of the sample members were working in hospitals which were treating more than (50) breast cancer patients, while 35.3% were treating (20 -30) breast cancer patients, and 11.8% of them were treating between (40- 50) patients

The highest percentage (29%) of them answered that more than 50% of their patients were treated with tamoxifen.

Conclusion: At the end of our study we found that it is important to apply the genetic testing in determining the response to Tamoxifen and planning for the optimum drug regimen for the patient. We found that the causes of this test inapplicability in our hospitals are financial issues and lack of awareness about this test among the oncologists. So there is an association between the genetic polymorphism and Tamoxifen response requiring the need to promote the awareness about genetic testing and its implementation among oncologists.

### Formulation Characterization and Optimization of Valsartan Oral Disintegrating Tablet

Dr. Syed Ahmed Iizhar Ibn Sina National College for Medical Studies, Jeddah, Saudi Arabia

Introduction: Valsartan (VT), an anti-hypertensive drug (class II) and the dissolution rate of this may be enhanced by complexation, with cross povidone (CP) and Hibiscus rosa-sinensis (HRS). Our objective is to optimize VT OD tablet by using CP and HRS as complexing agent.

Method: 13 formulations were prepared by direct compression method. The tablets were evaluated for drug content, hardness, friability (FT), disintegration time (DT) and dissolution. The amount of CP (X1) and amount to HRS mucilage (X2) is selected for the 33 factorial designs. The DT (Y1), FT (Y2) and % drug released at 25mins (Y3) were taken as the response variables.

Results: X1 and X2 represents the result of changing the variable at a time from low level to high level. The interaction terms (X1X2, X12, X22, X12X2 and X1X22) show Y1 Y2 and Y3 had changed simultaneously (Design expert software 8 version). The contour and 3D plots revealed that there is an effect of X1 and X2 with the interaction on Y1 Y2 and Y3.

Conclusion: The formulation (F2) shows minimum errors with CP and HRS with the response to dependable variables, optimized as best formulation. FT-IR and DSC studies show there is no drug-excipients interaction.

### Awareness about the Role of Clinical Pharmacist in Reducing Preventable Adverse Effect Reactions in Collaboration with Other Health Care Providers in Jeddah Saudi Arabia

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Introduction: Pharmacists can affect the delivery of primary care by addressing the challenges of medication therapy management. Most office visits involve prescribed medications and require assessment of medication effectiveness, the cost of therapies, and patients' adherence with medication regimens. Pharmacists are often underused in conducting these activities. In this study we evaluated the role of pharmacist and his intervention in reducing preventable adverse drug reaction. We have also studied the possible collaboration between pharmacist and physicians in relation to reduction of ADRs.

Method: This is a random observational study through questionnaire in Google form analyzed by SPSSv21 program with chi-square and frequency and percentage.

Results: The study has shown that most of the clinical pharmacist intervention is positively reducing adverse drug reactions and also provide cost-effective medication solutions. This survey also confirms the willingness of physicians to collaborate with pharmacist for a better outcome.

Conclusion: The study demonstrates that the knowledge and skills of pharmacists are complimentary and helps to

improve health care outcomes including reduction of ADRs.

### **Clinical pharmacy as a career, role and responsibilities and evaluating their job satisfaction in Saudi Arabia**

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**Introduction:** American college of clinical pharmacy (ACCP) in 2005 defined clinical pharmacy as the "area of pharmacy concerned with the science and practice of rational medication use." Within this definition, it is stated that the discipline of clinical pharmacy relies on caring, values, specialized knowledge, experience, and judgment. Utilizing these services will lead to a better outcome in terms of patients health. The main purpose of the study is to see if clinical pharmacy is applied as it should, demonstrate their role and duties as health care providers, and evaluate their job satisfaction in Saudi Arabian health care sector.

**Method:** This is a random observational cross-sectional study through electronic questionnaire using Google form. Data was analyzed using SPSSv21 program.

**Results:** The majority of clinical pharmacists were satisfied with their job. However they expressed some difficulties in work, which includes prescription errors. We suggest electronic prescriptions to avoid this problem. Majority of them are satisfied with the salaries they receive. Other problems they shared include disrespect they receive often from patients and their relatives. Some of them also pointed technical problems which are specific to their organizations.

**Conclusion:** The current study explains the need of clear regulatory guidelines to use electronic form of prescriptions to avoid prescription errors. Overall,

Pharmacists enjoy good working environment, however seek respect and recognition for his services to the society.

### **A Survey of Disposal and Storage of Household Medication Habits among Western Region Population, Kingdom of Saudi Arabia**

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**Introduction:** Over recent years, a remarkable elevation has been noticed in the use of pharmaceutical products. An increase in medication use has led to a rise in household medication quantity.

**Primary:** To survey the disposal and storage of household medication habits among Western Region population.

**Secondary:** Finding out reasons behind stocking unused medication and exploring their types and assessing the population knowledge regarding the manner of disposing expired medication.

**Method:** This study is a descriptive quantitative study. A randomly valid electronic based survey in Arabic was distributed to the Western Region population (Makkah, Jeddah, Medina, Taif) in Kingdom of Saudi Arabia through social media applications. Data was entered and analyzed by Statistical Package for Social Science (SPSS) version 20.

**Results:** A total of 1102 individual responded. (64%) were not in a medical field or related to it. (54.6%) respondents were from Jeddah. The study results indicating that (29.9%) of the total respondents stored their unused medication in the kitchen, while (91.8%) threw the expired medication in the trash. More than half of the respondents (58.3%) do not have adequate knowledge regarding the optimal way to dispose expired

medication. Nevertheless, the most common cause of stocking unused medication was excessive quantity of unused medication after finishing the therapy period (62.1%). While the most common type of stored medication was (90.7%) and (80.6%) pain killers and antipruritic respectively.

Conclusion: The study showed that the population does not have adequate knowledge regarding the optimal way to dispose expired medication. Educational intervention to boost awareness is a very critical need.

### Medication error incident reports evaluation at a tertiary care hospital in Saudi Arabia.

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Introduction: Medications errors have been a major concern of health care systems worldwide. Voluntary-based incident reporting is the mainstay system to detect such events in many institutions. To evaluate medication error incident reports those were reported in 2015 at King Abdulaziz Medical City.

Method: This is a descriptive study that was conducted utilizing 624 medication error reports. The study looked into many parameters to analyze these reports.

Results: About (69.3%) of these reports were near misses. (57.4%) came from the inpatient staff. Most of reported incident were occurred in the dispensing stage (36.7%). High alert medications were involved in 281 reports out of 624(45%). It was found that chemotherapy agents involved in 147 out of 281 reports of the high alert medication representing (52.3%).

Conclusion: This study identified many opportunities for improvement in the medication use system especially in management of chemotherapy and anticoagulant agents.

### The Misuse of Food Supplements

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Introduction: The usage of dietary supplements in all segments of society is increased and in this paper we address the extent of the community's awareness and behavior towards supplements and their optimal use. We also measured the influence of the doctor/registered prescriber on the users opinion.

Method: Electronic questionnaires were distributed to the various segments of society in Saudi Arabia

RESULTS: Based on the information gathered, we found that the most users were between the ages of 18-30 and had a weight between 50-60 kg. They do not suffer from any health problems and did not undergo tests before taking nutritional supplements. Although 42% believe that they do not mind using nutritional supplements without a doctor's prescription, 50% believe that there is no harm in using them.

Conclusion: The most dietary supplements in use were the multivitamin where the percentage of people using them was 43% and right after it was iron at 37%.

### Availability of Oral Sustained Release (Sr) Formulations in the Market of Saudi Arabia

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Introduction: Prescribing sustained release can mean less frequent dosing and thus better compliance reduce

variations in plasma/blood levels for more consistent result. The objective of the study was to know the SR/ER formulation available in the market.

Method: Three category of the drugs like Non-steroidal anti-inflammatory drugs (NSAIDs), Cardio Vascular agents (CVS), Oral Hypoglycemic agents (OHA) respectively, agents were selected to evaluate the available SR formulations. The questionnaires survey (drug, dose, dosage form, etc) was carried out from the Pharmacies of North and South Jeddha.

Results: From the survey, the statistical data reveals that OHA of 92.30%, 63.3% of CVS and only 10% of NASIDs is available as SR formulations.

Conclusion: It is concluded that OHA agents used to treat diabetics is available as SR formulation it might be due to maximum utilization of the drug in NIDDM patient, whereas NASIDs are less and most of them available as gel and lotions to treat the diseases.

### **Community Pharmacists' Dispensing Pattern and Awareness of Gabapentin Abuse in Saudi Arabia**

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Introduction: The United Nations ranked Saudi Arabia as the biggest consumer of illegal stimulants in the region. Abusers have diverted towards prescription drugs that could produce similar and desirable effects due to the restricted regulations, such as gabapentin<sup>2</sup>. According to Saudi law, this drug requires a valid prescription, which imposes higher responsibility on the dispensing pharmacist. Therefore, the study aims to investigate current community pharmacists' dispensing pattern and to assess their awareness of potential gabapentin misuse. Method: An observational study was carried out targeting community pharmacies in Jeddah, Saudi Arabia. The study started November 2016 until December 2016. A random sample of pharmacies was selected. Pharmacists were asked to dispense gabapentin by the commonly used

brand name: Neurontin®. Following that, pharmacists were surveyed using a self-constructed questionnaire to identify their dispensing pattern and awareness of gabapentin abuse. All responses were noted as anonymous. Questionnaire items included: pharmacists' demographics, pharmacy type and location, dispensing pattern of Neurontin®, and awareness of Neurontin® abuse.

Results: In total, 71 pharmacies (100% - males) were included, 11 (15.5%) providers refused to participate. 35 (49.3%) of the pharmacist were 30 years and above and 58 (81.6%) weren't Saudi, 36 (50.7%) of the total owned B.Sc. Pharm. degree with 4-10 years of experience 32 (45.07%). Majority of the pharmacies 55 (77.5%) were chain, located in the north 47 (66.1%). Dispensing without prescription was 38 (53.5%) of the total dispensing encounters, 55 (77.5%) of the providers were completely aware of gabapentin side effects, 32 (45%) of which stated "potential for abuse" as a main consequence. 28(39.4%) of the pharmacists sometimes provide patient education, and 54 (76%) believed that gabapentin is being abused by youth..

Conclusion: Unfortunate results affirm previously documented malpractice regarding dispensing medications without requesting a valid prescription. However, when this is being applied upon prescription drugs with potential for abuse, such as gabapentin, authorities must interfere to evaluate the dispensing pattern.

### **Comparative In- Vitro Evaluation of Commercially Available Film Coated Sr Metoprolol Tartrate Tablets**

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Introduction: Metoprolol tartrate (MT) is selective-adrenoreceptor blocking agent used in the treatment of

various cardiovascular disorders it's a class- I drug according to BCS.

The objective of the study is to determine the difference between commercial available MT sustained release (SR) tablets.

Method: Only two commercially available tablets of MT i.e Lopresor retard- 50 and 100mg (A) of Novartis and Belocozok -100mg (B) of Asterzenca are present in the market. Both the brand are film coated SR tablets. These MT tablets were evaluated for uniformity of weight, hardness test, drug content and in vitro dissolution test.

Results: A and B products met the requirements as per United States Pharmacopoeia. There is apparent minor difference in tablet hardness, thickness and drug content. There is no marked differences in dissolution characteristics of (A) and (B). The Mean dissolution time (MDT) for A and B is found to be 4.02h and 4.05h, while dissolution efficiency (DE8%) decreased, indicates the release of MT is slower, follows a near zero order kinetics.

Conclusion: Both the brands of MT tablets are seemed to be chemically and pharmaceutically equivalent.

### **Prevalence of Third Molar Impaction among different types of Skeletal Malocclusion in Jeddah, Saudi Arabia**

Sewar Abdullah Alshareef, Al-Farabi College Jeddah.

Introduction: Teeth become impacted when they fail to erupt or develop in their proper functional location; of all teeth, molar is the most common impacted tooth. It is ranged between 6.7 % - 68.6 %. Also, malocclusion is considered as the third highest prevalence dental pathologies as a condition. Many authors reported the relation between third molar impaction and malocclusion; however, in Saudi Arabia, many studies reported the prevalence of impaction and malocclusion independently. This study reveals the prevalence of third molar impaction among different types of skeletal malocclusion.

Materials and Methods: its retrospective study reviewed 40,428 radiographs and included 325 patients who had panoramic radiograph to evaluate third molar impaction, based on Pell and Gregory classification, and lateral cephalometric to analyze skeletal malocclusion. The cases with full set of permanent teeth, 2/3 of third molar roots were formed, no history of previous orthodontic treatment and with no serious chronic medical conditions. Chi-square test was applied using SAS version 9.2.

Results: no significance was found between the 3rd molar impaction and different type's of skeletal malocclusion ( $P > 0.05$ ). Class II was the most common type of skeletal malocclusion (39%), then class I (37%) and the least was Class III (24%). The most frequent classes of third molar impaction were A1 (42.075%) and B (44.76%) in mandible and maxilla respectively.

Conclusion: Within limitation of this study, there was no significant between different types of skeletal malocclusion in relation to third molar impaction generally. However, our result revealed that the highest percentage of impaction were found in class II skeletal malocclusion.

### **Average Distance between the Gingival Margin and Cemento Enamel Junction**

Dr. Rawan Ezzo Alshoubaki, Ibn Sina National College.

Introduction: It is a challenge to get an accurate measurement of Clinical attachment level (CAL) when the gingival margin (GM) is coronal to the Cemento-enamel junction (CEJ). This is a pilot study conducted to record and compare the position of the GM.

Objective: To record and compare the position of the gingival margin (GM).

Method: A total of 20 patients who were referred for surgical crown lengthening were included. GM location relative to the CEJ was recorded. A single examiner conducted all the examination using UNC-15 probe and a

custom made stent. Data were analyzed using paired t-test, independent t-test and person correlation.

Result: The mean age ( $\pm$  standard deviation) of the study sample was 25 ( $\pm$  8) years. The mean values for GM-CEJ distance before (closed) and after (open) flap reflection, respectively were 1.32 ( $\pm$  0.64) mm and 1.34 ( $\pm$  0.62) mm.

Conclusion: Within the limitation of this study, no difference in the GM-CEJ distance measurements between open and closed method.

### 3D Oropharyngeal Airway and Vertical Craniofacial Morphology Assessment

Dr. Sreeja Ravindran, Ibn Sina National College.

Introduction: Studies have shown relationship between airway obstruction and vertical craniofacial morphology. The morphology of the airway influences the volume of air passing through.

Objective: In this study, the 3D oropharyngeal airway volume and the association with vertical craniofacial morphology was studied.

Materials and Methods - 36 Saudi adults (19M&17F) were studied using their CBCT datasets and the datasets were studied using open source software ITKSnap and RadiAnt DICOM viewer for measurements of oropharyngeal airway volume and anterior vertical craniofacial measurements respectively. Oropharyngeal volume was estimated using Semiautomatic segmentation. Cephalometric landmarks located on rendered 3D volumes were used for vertical measures. All measurements were performed by two operators at different occasions and there were absolute agreement. Mann Whitney test examined for gender differences. Pearsons correlation tested association of airway volume and vertical facial measurements ( $p\leq 0.5$ )

Results: MannWhitney showed significant difference ( $p=0.02$ ) in mean airway volume ( $6681.5\pm 916$ ) and male ( $7944\pm 518.4$ ) subjects. Pearson correlation showed no

association of airway volume with vertical craniofacial measures

Conclusions: Traditional, 2D cephalometric measurements impose restrictions on meaningful measurements of the airway. Hence in this study, the 3D ITKSnap proved to be reliable for volumetric measurement of the oropharyngeal airway. Adult males have significantly greater airway volume than females. No association exists between airway volume and vertical craniofacial morphology.

### Evaluation of Smear Layer Removal and Apical Extrusion of Root Canal Debris and Irrigants Using NaviTip FX Irrigation Needle.

Dr. Basel Abozor BDS,MSc, Ibn Sina national college for medical studies.

Introduction: The success of endodontic treatment depends on the eradication of microbes (if present) and debris from the root-canal system and prevention of reinfection. The root canal is shaped with hand and rotary instruments under constant irrigation to remove the inflamed and necrotic tissue, microbes/biofilms, and other debris from the root-canal space.

Objective: The purpose of this study was to evaluate the weight of debris and irrigant volume extruded apically and cleanliness of smear layer from root canal in vitro after endodontic instrumentation and irrigation by NaviTip FX.

Materials and Methods: endodontic instrumentation and irrigation by NaviTip FX, a brush-covered irrigation needle. Were irrigated with 5 ml of 5.25% NaOCl and 1 ml of 17% EDTA. Apically extruded debris and irrigant were collected and weighted. Finally, roots split longitudinally prepared for scanning electron microscopic evaluation of canal cleanliness.

Results: The results showed no statistically significant difference on comparing of two groups in term of debris extrusion. G1 showed statistically significantly higher mean irrigant volume than Group2. Using NaviTip FX

produced cleaner canals at apical and coronal thirds though not statistically significant.

**Conclusion:** Further development of this irrigation technique to improve cleanliness and avoid extrusion is required before recommended for routine use during root canal therapy.

### Oral Hygiene

Albaraa Abdulrazaq Makhdom, Al-Farabi College Jeddah.

**Introduction:** Dental student considered as models for dental care. Knowledge about prevalence, ability to stop smoking are important to help them.

**Aim:** To know prevalence of smoking among dental students, reasons, their willing to stop.

**Methods:** Questionnaire. Sample 227 dental students.

**Results:** smokers was 46%, common reason for smoke is Friends. 85% of student want to quit, 80% didn't know any societies for quit, 60% want a program for quitting smoking.

**Conclusion:** prevalence of smoking was high, most of student wants to quit but they didn't know how, they need a program to know how to quit smoking.

### Pattern of antibiotic prescription during oral implantology among dentists in Saudi Arabia.

Ahmed Abdulhadi Almozayen, Intern, Ibn Sina National College.

**Introduction:** The importance of antibiotics is undeniable in the dental field, whether used to treat an infection or as a prophylactic against one. The evidence of using prophylactic antibiotics before surgical procedures in patients at risk of endocarditis or in those who are immunocompromised is well established. On the other hand, Prescribing antibiotic as a prophylaxis in relatively normal patients undergoing routine surgical procedures, such as the placement of dental implants, remains a controversial issue.

**Objective:** To investigate antibiotic prophylaxis prescription behavior among dentists practicing dental implant surgery in Saudi Arabia.

**Materials and methods:** An observational questionnaire study was conducted in period between October to December 2016. A validated questionnaire was sent to 400 dentists practicing dental implant placements in the different areas of Saudi Arabia. Absolute frequencies were used to describe the data.

**Results:** 109 completed questionnaires were received. 59.63% (n =65) of the respondents routinely prescribed prophylactic antibiotics when performing implant surgery. There was a wide variation in the pre-operative and postoperative prescription regimens with the majority (67 %) starting the antibiotic immediately postoperatively for 3-5 days with no preoperative antibiotic use.

**Conclusion:** The results suggests that prophylactic antibiotic should be used correctly and only in the indicated conditions. Also, dentists should be aware about the risk of overuse of antibiotics.

### Enhancing dental education – can augmented reality help?

Ahmad Mahmoud Moghlaj, Tahani Mohammed Alattas, Hala Ahmed Aleissa, Hussam Abudulaal, Maan Alabbadi, Ahmad Atteya, Interns, Ibn Sina National College.

**Aim and Objective:** Analyze e-learning readiness and dental student perception of augmented reality (AR) in dental education.

**Materials and Methods:** Web-based pre-experience survey examined levels of e-learning readiness. Aurasma™ was used to create AR experience of an orthodontic lab exercise. Post-experience survey was designed to discover usability and student attitudes after experiencing AR assisted learning.

**Results:** Pre-experience surveys showed adequate access to technical means, web-autonomy, e-skills,

support and motivation of students. Post-experience surveys revealed students found AR a positive experience with a majority wanting extended usage.

Conclusion: AR may enhance student learning and offer exciting possibilities for the future.

### **Comparative Study between Single and Multiple Visit Root Canal Retreatment's with reference to post-operative pain, flare-up incidence and total success rate of the whole procedure by two different rotary retreatment systems**

Montaser O. Ezmirly, Loujain F. Baghdadi, Dareen A. Menkabo, Ibn Sina National College

Introduction: Several studies have been made to investigate the effectively single and multiple visit endodontic treatment. Although most of the studies that were individually conducted were based on lone measuring factors that are: flare-up rates, post-operative pain and treatment success rate. The question on the general aspect as whole as to which treatment plan was better; the single visit treatment or multiple visit endodontic treatment still remains as a controversy.

The purpose of this study is to obtain consolidated and conclusion based data on the effectively of single and multiple root canal retreatment. Moreover, to be able to derive with a conclusion by comparing both treatments basing on the measuring factors mentioned above

Objective: 1. To compare to different rotary instrumentation technique in retreatment (R-Endo/ Protaper), 2. To determined flare-ups after obturation, 3. To compare single visit with multiple visits outcome, 4. Test the efficacy of two different retreatment rotary system and which one is fast, 5. To evaluate the separation rate in both retreatment systems, 6. To evaluate the effect of intra-canal medication in two visits retreatment and the incident of flare- ups.

Materials and Methods: Two hundred patients were assigning in this study, they were selected in single visit

group or multiple visit group, according to their treatment needs, for each group two different files system were used for retreatment, the R endo from micro-mega, hand file headstrome from care sbron endo, Intra-canal medication (CaOH<sub>2</sub>) was used in the two visit cases with periapical lesion, the total success measured by visual analog scale of pain, regression analysis was performed using pain and swelling as dependant variable such as age, sex, type of tooth, location, periapical lesion, intra-canal medication.

Conclusion: The percentage of patient experience flare-up during NSRCT procedure is significant higher in (HF) comparing to the R-Endo group rotary retreatment. The two visit retreatment appears more post-operative pain and swelling. No significant different between intra-canal medication in two visit by (HF) and (R-Endo). The presence of periapical lesion was the single most important predictor for flare-up during NSRCT.

### **Prevalence of pattern of edentulism among patients reporting to ISNC, Jeddah, KSA**

Tahani Mohamad Alattas<sup>1</sup>, Ahmad Mahmoud Moghlaj<sup>1</sup>, Dr Narendra Basutkar<sup>2</sup>

<sup>1</sup> Intern, Ibn Sina National College.

<sup>2</sup> Staff, Ibn Sina National College.

Introduction: There is a significant variation in tooth loss distribution. These disparities may be attributed partly to the increased availability and accessibility to oral diseases prevention and control programs, as well as to increase in the awareness of the importance in oral health.

Aims and objective: To identify most common pattern of edentulism prevailing according to Kennedy's classification in the given population and correlating it to age, gender

Material and method: Patients who received removable prosthesis for replacement of their missing teeth department of prosthodontics, ISNC, Jeddah were

included in the study. Patient files and student log book were screened for the information such as age, gender, type of Kennedy's classification and design of the major connector were recorded.

The data was subjected to statistical analysis.

Conclusion: Among 450 patient who received RPD, the class III modification I was the most common followed by class I.

### **The Comparative Effect between Different Irrigations with Biopure Mtad on the Smear Layer Removal of Root Dentine**

Dr.Waleed Balubaid, Dr.Abeer Alomary, Dr.Mohammed Garanbish, King Fahad General Hospital, Jeddah.

**Objectives:** The aim of the study is to compare the effect of BioPure MTAD, EDTA and NaOCL as Root Canal Irrigants on the Smear Layer Removal.

**Material and Methods (Study Design):** Sixty-four freshly human extracted single-rooted teeth was used in this study. All teeth were divided into 4 groups, according to the irrigant solution used as final rinse: (1) group 1, BioPure MTAD; (2) group 2, 17% EDTA; and (3) group 3, 5.25% NaOCL; (4) group 4, control (distilled water). All experimental and control groups were sectioned longitudinally and prepared for evaluation of smear layer of root dentine before and after irrigation by using the scanning electron microscope.

**Results:** The results of this study show that No statistically significant difference was found between MTAD and EDTA groups in the coronal and middle areas but a statistically significant difference was found in the apical area.

**Conclusion:** The BioPure MTAD is more effective in removing the smear layer then EDTA.

## **Case Reports**

### **Use of Miniscrew anchorage system in different types of orthodontic cases – case reports"**

Dr. Kavitha Marusamy, Ibn Sina National College for Medical Sciences

**Introduction:** Anchorage control is of paramount importance in ensuring orthodontic treatment success, particularly certain type of cases like asymmetry corrections, missing molars and rotation correction where it is even more critical. The conventional anchorage methods such as head gear, Trans palatal arch (TPA )currently used to treat these types of anomalies are rather complex and can trigger undesirable movements in the reaction unit, or even be rejected by patients on account of the esthetic compromise they entail. The use of micro screws as anchorage units, as well as averting undesirable side effects, helps to streamline orthodontic mechanics while providing greater treatment result predictability, reducing treatment time and allowing the correction of these cases by affording direct anchorage. Given their small size, these screws can be inserted in a variety of sites on the alveolar and basal bones, thereby creating an absolute anchorage system which allows teeth to be moved only where such movements are desired. Thus, more predictable and controllable movements are achieved without any side effects and the use of simpler orthodontic mechanics.

**Objective:** To simplify the anchorage mechanic

**Materials and methods:** In this presentation, our experience of mini screws application in tooth movements, anchorage control, molar intrusion in different orthodontic clinical cases & the treatment outcomes are discussed.

**Result and Conclusion:** Miniscrews had a high success rate of approximately 90 % the same as miniplates and large titanium screws, they provided sufficient anchorage

immediately after placement surgery for any orthodontic movement. Miniscrew placed without a mucoperiosteal incision or flap surgery significantly reduced the patient's pain and discomfort after implantation. Miniscrews have suitable characteristics as orthodontic anchorage.

### **Buccal fat pad reconstruction for intra oral surgical defects- A report of two cases**

Dr Saravanan Ramasamy MDS, Assistant Professor, Ibn Sina National College of medical sciences.

**Introduction:** The aim of the study was to evaluate the efficacy of the buccal fat pad (BFP) in the reconstruction of various intraoral defects as well as the success, anatomy, healing process and complications of this technique.

**Patients and Methods:** Three patients with surgical excision of oral tumour with resultant defects (tumour of the hard and soft palate, posterior mandible and pterygomandibular raphe area) were treated with a pedicled buccal fat pad reconstruction without lining.

**Results:** All inserted fat grafts healed well without any aesthetic disturbances. The surface of the fat converted to normal mucosa.

**Conclusions:** Studies suggested that owing to favorable anatomic location, high vascularity, ease of handling, and low failure rate, the BFP has become the flap of choice for reconstruction of various oral defects. The size limitation of the BFP must be known to permit successful outcome. The results have been encouraging for clinicians to make use of potential benefits of the BFP in closure of defects in the oral and maxillofacial region.

### **Endodontic therapy for mandibular second premolar with three canals**

Mashaal Hassan Bagadood, 5<sup>th</sup> BDS Student, Ibn Sina National College.

**Introduction:** Root canal treatment (Endodontic) is a dental procedure used to treat infection at the centre of a tooth (the root canal system). That infection caused by Bacteria live in oral cavity and invades to the tooth with (careis, leakage filling, and trauma).

**Objective:** To present treatment of unique case of mandibular second premolar with three canal.

**Material and Method:** Through knowledge of root canal morphology, appropriate assessment of pulp chamber floor, critical interpretation of radiographs are prerequisite for successful root canal treatment. Mandibular premolars frequently exhibit variable and complex root canal morphology and are one of the most difficult cases to treat endodontically. These teeth may require skillful and special root canal preparation and obturation techniques.

**Result and conclusion:** These are an unusual case of mandibular premolar with three canals that was successfully treated endodontically in ISNC on 5th years clinics.

### **Comprehensive treatment of METH mouth patient**

Mohammed Yassir Fakiha, Intern, Ibn Sina National College.

**Introduction:** METH short for Methamphetamine, is a dangerous addictive drug that can have severe health implications. And the oral manifestation of this drug include bad breath, cavities, bleeding, red gums and caries. Management of these cases always a challenge.

**Objectives:** Provide knowledge of oral manifestations of drug abuse and its early diagnosis for the general practitioner.

**Material and methods:** A 30 years old patient came to the dental clinic, ISNC with a chief complaint of bad esthetics with history of meth addiction but he stopped 1 year ago. On examination Severe inflamed gingiva and multiple chronic caries and necrotic pulp and non-restorable multiple posterior teeth was found.

**Result:** Comprehensive prosthodontics management was planned, the patient was followed clinically and radiographically for six months, no post-operative signs and symptoms were reported.

**Conclusion:** Effects of methamphetamine addiction and its comprehensive management was discussed.

### **Restorative space management of canine lateralization in congenitally missing lateral incisor (esthetic challenge)-case report**

Areej Sunbol, Intern, Ibn Sina National College

**Introduction:** The rising desire in attempting to provide an esthetic solution in cases of malformed or missing teeth, few of these cases are congenital from birth or developmental from environmental factors gave interest in restorative space management .There are three treatment options for rehabilitation of missing lateral incisor which includes : Orthodontic space opening or closure , Prosthodontic replacement , Single tooth implant.

Selecting the best treatment plan for the case depends on the mal-occlusion, the amount of space present and the position of the tooth in the arch. The ideal option should always meet the individual esthetic and functional requirements.

This presentation presents prosthodontic replacement to close the unilateral maxillary lateral incisor absence.

**Objective:** To discover if the treatment of choice was ideal to close the space of the missing maxillary lateral incisor.

**Materials and methods:** the sample was a male age 21 who reported to the clinic for space management .upon examination unilateral congenital maxillary lateral incisor was found to be missing. all necessary investigations such as full mouth DPG and diagnostic cast then full anterior teeth diagnostic wax up to determine the final results.

**Results and conclusions:** successful results obtained in closing the space created by the drifting of the canine.

### **Orthodontic management of early and congenitally missing maxillary anterior teeth –case reports.**

Amira Helmy Eldawy, Intern, Ibn Sina National College.

**Introduction:** Early loss or congenitally missing maxillary anterior teeth pose unique challenges for the orthodontist. It restricts the maxillary arch development, leads to constricted upper arch and also creates midline shift to the opposite side. Three main treatment options are ideal to manage the missing anterior teeth. The first option is canine substitution (close the space and reshape the adjacent teeth). The second option is creating space for the missing tooth and replacing it with a tooth-supported restoration, or a single-tooth dental implant. The third option is auto-transplantation and removable partial dentures (less common options). The primary consideration among all treatment plans should be conservation.

**Objective:** The treatment of choice should be the least invasive option that satisfies the expected esthetic and functional objectives.

**Materials and methods:** This presentation will discuss about orthodontic management of two different missing anterior teeth cases. Case 1 will explain about substitution of adjacent tooth for missing anterior. Case 2 will describe about creating space for final restoration of missing anterior tooth. The factors which will play very important role while planning the treatment also will be discussed.

**Result and Conclusion:** Orthodontists frequently encounter patients with congenitally missing teeth. Generally, the treatment of choice should be the least invasive option that satisfies the expected esthetic and functional objectives.

### Management of Parotid duct injuries using Epidural catheter- A technical note

Dr Sheetal Kumar R, Ibn Sina National Medical College, Jeddah.

**Introduction:** Stenson's duct is an important structure in the maxillofacial area which drains parotid secretion. Anatomical integrity of this structure is disturbed during maxillofacial injury. Diagnosing the parotid ductal injuries sometimes may be challenging & failing to which may lead to sialocele or salivary fistula like complications post operatively. Many methods are in practice for diagnosis and surgical repair of the parotid duct. Epidural catheter can be used as one of the aid in repairing the parotid duct injury.

**Objectives:** 1. To recognize the extent of parotid duct injury in facial trauma, 2. To evaluate the role of epidural catheter in repair of parotid duct injury.

**Materials and Method:** Patient reporting with maxillofacial injury in the cheek area are subjected for diagnosis of parotid duct injury. Epidural catheter is used as a aid for diagnosing and surgical repair of the parotid duct. The technique of Epidural catheter usage, advantages over other techniques proposed for management of parotid duct injury will be discussed.

**Result:** Epidural catheter can be used successfully as an aid during surgical repair of parotid duct.

**Conclusion-** Use of Epidural catheter can be of great aid with certain advantages over other techniques during parotid duct injury and repair.

### Burning Mouth Syndrome

Ashwaq Maqbool, 5<sup>th</sup> BDS Student, Ibsina National College

**Introduction:** Burning mouth syndrome (BMS) is a rare idiopathic oral condition or secondary to other conditions, it may or may not have any clinical or laboratory findings.

**Objectives:** present a case of BMS and its relationship to depression, stress and life style.

**Materials and Methods:** we present a case of a 58 years old female patient with 12 children, who visited the dental office seeking relief from severe burning sensation in the mouth. She has severe depression that she tried to commit suicide, no intra oral findings could establish an organic cause for the burning mouth.

**Results:** following a thorough clinical examination, lab and stress test, answering depression questionnaire, there was a strong relation between her burning mouth and stress.

**Conclusion:** BMS is a rare syndrome and need to be highlighted because it is strongly related to depression, stress and life style, if depression established as the cause, it is important to treat them with empathy to help alleviate their pain.

### Comprehensive Management of Long Spaces in Esthetic Region with Conventional Prosthesis

Feras Shaikh Omar, Intern, Ibn Sina National College.

**Introduction:** Nowadays high number of patients requesting fixed prosthesis in the process of Â mouth rehabilitation, many dentists have been using partial dentures with free-end pontics[1]while the option of Cantilever fixed partial dentures[2] is available.Â

**Objective:** Providing the knowledge of distributing the load of a long span bridge with cantilever.Â

**Material and method:** 28 year-old male patient presented to ISNC Clinics with a chief complain of bad esthetics. Upon examination, unesthetical restorations, multiple chronic caries, multiple endodontically involved teeth, spacing with conventional preparations and hopeless teeth were found.

**Result:** Comprehensive prosthodontic management was planned with six-month follow-up. No post-operative signs and symptoms were reported.

**Conclusion:** The advantage of long span bridge with a cantilever was discussed.

### Treatment of Moderate-Sever fluorosed teeth

Walaa Talal Fatani, Intern, Ibn sina national college, Saudi Arabia

**Introduction:** The use of fluoride in preventive dentistry has been the most effective anti-caries measure, but is also associated with the increasing prevalence of dental Fluorosis. Dental fluorosis is a specific condition due to chronic ingestion of excessive fluoride during enamel formation, which is characterized by white opaque appearance with secondary brown stain, discolored and pitted enamel of fluorosed teeth may be esthetically objectionable, discoloration of teeth is the most common reason why patients seek treatment of fluorosed teeth. Nowadays several management strategies have been proposed for teeth with fluorosis of varying severity.

**Materials and Methods :** In this case, DSD was used to motivate and increasing patient acceptance of the final result and carried out properly patient's expectations to lab to do a wax-up to perform a clinical try-in a provisional restoration, cover incisal edge preparation was selected to give the dental technician maximum control over esthetic characteristics and translucency. Although the veneer preparations extended into the enamel only, after removing 0.3-0.5 mm of enamel an acrylic resin provisional restoration was positioned over all prepared teeth.

Final porcelain laminate veneers restoration application was performed five days later.

**Result:** A2 "VITA classical Shade Guide" final porcelain laminate veneers were Applied

**Conclusion:** It is a great way to change a smile that shows fluorosed and stained teeth into one that makes patient satisfied and also achieve the result desired by the patient. Porcelain laminate veneers not only do they have excellent appearance and predictability, they are biocompatible, marginal integrity excellent, hypersensitivity and change in sensibility of the restored

teeth were uncommon and recurrent caries in 3% of the patients.

### Smile Make-Over

Ahmad Farid Atteya, Intern, Ibn Sina National College.

**Introduction:** Nowadays, esthetic treatment protocols can resolve any discrepancy and guide decisions in a multidisciplinary approach to obtain satisfactory and predictable results. Accordingly a digital smile design (DSD) is a useful diagnostic tool to evaluate the dentogingival alterations, tooth size, shape, and position as well as gingival contour, enabling us to achieve the expected results for the different aspects of cosmetic planning.

**Material and method:** 29 years old patient came to dental clinic ISNC, KSA was concerned about the unaesthetic appearance of his smile. On examination malformed and congenitally missing teeth and maxillary gingival excess resulting in a gummy smile and multiple non-restorable posterior teeth was found.

**Objective:** Using DSD tool in esthetics of the smile related to the color, shape, texture, dental alignment, gingival contour, and the relationship of these with the face provide good diagnosis and communication with the patient and lap to get a better prognosis.

**Result:** The proposed technique had an acceptable clinical performance at the end of a six-month follow-up.

**Conclusion:** DSD can be used to increase professional/patient communication and to provide greater predictability for the smile's esthetic rehabilitation.

### Esthetic Rehabilitation of a Hopeless patient

Wassim Bakhit, Intern, Ibn Sina National College.

**Introduction:** Studies have concluded that an attractive smile is an important social asset that helps people to improve their self-esteem and social lives as well.

Unfortunately, people with stained, broken or decayed teeth avoid smiling. When poor oral hygiene starts affecting the smile, it can lead to social and psychological problems.

**Objective:** The aim of this case report is to clarify the effect of establishing acceptable smile on the patient's psychology and self-confidence eventually improve their quality of life.

**Materials and method:** History of drug abuse, attended the clinic complaining of unpleasant esthetic appearance due to grossly decayed teeth, discolored restorations, multiple caries, multiple missing teeth.

**Result and Conclusion:** The comprehensive restorative treatment can transform not only the smile, but also the character of the face. That indicates improvement in the patient's psychological and mental condition, increased self-esteem and reduced depression.

### **Anticipating and managing Obstacles in Fixed Prosthesis**

Alshaymaa Ali Faydhi, Intern, bnSinaNational College

**Introduction:** A common problem that occurs with some frequency is the mandibular second molar abutment that has tilted mesially into the space formerly occupied by the first molar. It is impossible to prepare the abutment teeth for a fixed partial denture along the long axes of the respective teeth and achieve a common path of insertion. This can usually be solved by well-planned tooth preparation in conjunction at times with intentional endodontic therapy.

**Materials and Methods:** A healthy 22-years-old male patient reported with missing 22 and 36 and tilted tooth 37 with large buccal caries. Horizontal bone resorption related to tooth 37, 35. Radiographic examination revealed localized bone loss related to teeth 37 and 35. Scaling was done followed by caries control. To replace missing 36; 37 and 35 were used as abutments for FPD

after achieving common path of insertion, for 22 an implant was placed along with GTR.

**Results and conclusion:** After 1 year follow up, no signs of apical pathosis were observed, and the periodontium was stable, proving that an FPD is a viable option for tilted abutments. Two missing teeth were successfully replaced using two different approaches.

### **Case report of a 27 year old with a rare recurring lesion on the mandible**

Dr Shiba Roby, Ibn Sina National College for Medical Studies

**Introduction:** Brown tumour is a rare focal giant-cell lesion that arises as a direct result of the effect of parathyroid hormone on bone tissue in patients with hyperparathyroidism (HPT). The lesions localise in areas of intense bone resorption, and the bone defect becomes filled with fibroblastic tissue. It can affect the mandible, maxilla, clavicle, ribs and pelvic bones. Therefore, diagnosis requires a systemic investigation for lesion differentiation.

**Objective:** A systemic investigation for lesion differentiation.

**Materials and Methods:** A case of a 27-year-old woman, with a rare case of brown tumour of mandible due to HPT secondary to osteomalacia. The lesion showed a tendency to recur even after excision till her parathyroid levels became normal.

**Result and Conclusion:** Secondary hyperparathyroidism (SPT) can manifest with no symptoms except brown tumour as in this case. Differential diagnosis of exophytic growths especially in the posterior mandible should also include brown tumour.

### **Surgical and orthodontic management of impacted and malposed maxillary canines- case reports**

Dr. Kavitha marusamy, Ibn sina national college for medical sciences.

**Introduction:** After the third molars, the maxillary canines are the most commonly impacted permanent teeth. About one third of impacted maxillary canines are positioned labially or within the alveolus, and two thirds are located palatally. In most situations, the appropriate timing and surgical procedure for uncovering an impacted canine are determined by specific criteria. The mechanical management of impacted teeth is a routine task for most orthodontists, the esthetic outcome can be unpredictable if the surgeon uncovers the impacted tooth improperly. If the correct uncovering technique is chosen, the eruption process can be simplified, resulting in a predictably stable and esthetic result. And also proper diagnostic method is required to achieve good results. Cone beam CT (CBCT) is a very useful diagnostic tool to identify impacted canine.

**Materials and methods:** This presentation will review about 2 different cases of impacted canines (labial & palatal), its diagnostic procedures, surgical exposures which includes excisional approach and apically repositioned flap and orthodontic management of maxillary impacted canines and malposed canine.

**Result and Conclusion:** if proper diagnostic procedures and surgical techniques are implemented to manage the impacted canines, the treatment will be successful without any compromise.

### **Oral Rehabilitation of Young Patient with Gingivitis Using Hyaluronan Gel**

Yara T. Fageeha, Intern, Ibn Sina National College

**Introduction:** Hyaluronan is a natural tissue component, which plays a vital role in the periodontium. This structure is important in relation to the mechanisms associated with inflammation and wound healing.

**Objective:** The aim of this study was to evaluate the effect of local application of hyaluronan gel in treatment of gingivitis.

**Material and methods:** A 16-year-old male visited ISNC dental clinics with a chief complaint of discomfort due to

gum bleeding associated with a big swelling. Clinical examination revealed inflamed gingiva, plaque film and multiple teeth with chronic caries. After clinical and radiographic investigations, he was diagnosed with plaque induced gingivitis. The patient received a full comprehensive treatment plan, treatment was initiated with oral hygiene instructions for plaque control, followed by thorough scaling and root planning. Patient was prescribed topical hyaluronan gel

**Result:** Significant gingival improvement was seen in clinic. Patient continue his treatment plan, 6 months later the patient finished his treatment and reported with no major problems

**Conclusion:** Hyaluronan gel is an effective topical agent for treating gingivitis, along with scaling and root planning.

### **Minor Periodontal Surgical and microesthetic Procedures associated with Orthodontic Treatment.**

Erada Abodawood, Intern, Ibn Sina National College for Medical Studies

**Introduction:** An essential goal of orthodontic treatment is to achieve optimum dentofacial esthetics and long-term stability of the result. Patient awareness and expectations have increased recently to the point that less than optimal aesthetics are no longer an acceptable outcome. Along with orthodontic treatment, micro esthetic procedures like enameloplasty, gingivectomy, frenectomy, the integrity of the dentogingival junction, and dental restorations are very much recommended before debond the orthodontic case.

**Objective:** To improve the orthodontic tooth movement as well as stabilize the results and enhance the esthetics.

**Materials and Methods:** This work revolves around the tenet that how minor periodontal surgical procedures like gingivectomy, esthetic gingivoplasty (surgical recoutouring), frenectomy, circumferential fiberotomy and surgical canine exposures would render optimal

orthodontic therapeutic results in today's era. And also talks about indications, contraindications, surgical procedures and difficulties encountered during these process.

Result: The procedure undertaken was successful.

Conclusion: At par successful orthodontic treatment for many patients will depend on the periodontal preparation before and after treatment and the maintenance of periodontal health throughout all phases of mechanotherapy. And also microesthetic procedures are very much recommended for orthodontic patients before get debonded. A predictable, successful outcome can only be expected if a complete and accurate diagnosis is obtained and used to generate an appropriate treatment plan and procedure.

### Endodontic retreatment of three rooted maxillary first premolar

Dr. Sami Jehad Hassan<sup>1</sup>, Youssef jadallahbajnaid<sup>2</sup>,

<sup>1</sup> Staff, IbnSina national college for Medical Studies,

<sup>2</sup>Intern, IbnSina national college for Medical Studies

Introduction: maxillary first premolar is the most commonly two root canal with a less percentage of three root canal. Three-rooted maxillary first premolars are rare in Asian population. Detection of premolar three root canal can be easy missed. For proper detection of three root canals require knowledge of tooth anatomy and morphology. The incidences of three roots, 0 to 6 %.

Materials and Methods: A 53 Indonesian diabetic female patient referred to the dental clinic of IbnSina national college. There was an old porcelain fuse to metal bridge cemented on maxillary right lateral incisor and first premolar abutments. There was open margin with recurrent caries and an inadequate obturated maxillary first premolar. There was slight widening of periodontal ligament space radiographically. There was slight mobility after removal of the old bridge. After removal of the old bridge and amalgam restoration, access cavity was

modified., three root canal orifices has been Detected after removal of the root canal filling material. Bio mechanical preparation was carried out using the step back technique. The root canals were obturated using lateral compaction technique.

Results: Three month later the tooth was asymptomatic with normal mobility

Conclusion: Anatomical variations must be considered before beginning treatment. Careful clinical and radiographical examination is essential for successful endodontic treatment. Use of magnification and illumination can enhance the visualization of the pulp chamber and extra canal orifices.

### Prevalence of Dental Agenesis among Different Types of Malocclusion in Jeddah, Saudi Arabia.

Lamya Akbar, Al-Farabi College Jeddah.

Introduction: Dental agenesis is the congenital absence of teeth constituting the most common developmental anomaly in human dentition. In addition, malocclusion is a discrepancy between maxillary and mandibular arches.

Objective: Determine the prevalence of dental agenesis among different types of malocclusion.

Materials and Methods: Orthopantomograms (OPGs) of 2973 patients were screened for congenitally missing permanent teeth and lateral cephalometric analysis was conducted to determine the skeletal pattern of malocclusion. Medical and dental records were reviewed to exclude syndromes and history of extractions. Statistical analysis included frequency distribution and Chi-square test.

Results: A total of 170 patients (5.7%) with mean age of 15 years were found to have agenesis. The maxilla showed a prevalence of 26.5% in comparison to 44.7% in mandible which was statistically significant in relation to Class II malocclusion ( $P < 0.05$ ), whereas 28.8% showed agenesis in both arches. Class II malocclusion scored the highest prevalence of agenesis (35.3%), followed by Class III

(32.9%) of which upper lateral incisors and lower left lateral incisor showed a statistical significance, whereas Class I showed the least prevalence (31.8%).

Conclusion: Class II malocclusion scored the highest prevalence of dental hypodontia, followed by Class III whereas Class I malocclusion scored the least prevalence. Further studies including other health institutions in Jeddah and other cities of Saudi Arabia is recommended.

### **Orthodontic management of lateral crossbite with posterior bite plane and molar mesialization with miniscrews- A case report**

Duaa Yousif I Bakhsh, Intern, Ibn Sina National College.

Introduction: Cross bite is an abnormal labiolingual relationship between one or more maxillary and mandibular teeth. Cross bite correction is highly recommended as this kind of malocclusion does not diminish with age. Cross bites that are not corrected may lead to abnormal wear of lower anteriors and cuspal interference, mandibular shift resulting in mandibular asymmetry and temporomandibular joint dysfunction syndrome. Especially uncorrected anterior cross bite may lead to abnormal enamel abrasion or proclination of the mandibular incisors, which, in turn, leads to thinning of the labial alveolar plate and/or gingival recession. The correction of cross bites is more complex than it appears. To develop an appropriate treatment plan, it is first necessary to determine if: (1) there is a functional jaw shift on closing; (2) the cross bite is unilateral or bilateral; (3) it is dental, skeletal, or a combination of both; and (4) it is related only to the maxilla or both jaws. Once the problems apparent cause has been defined, it is then necessary to select the appropriate modality of treatment to correct the cross bite.

Case report: A 25 year female patient reported with right lateral dental cross bite with tooth number 12 and 13, she

has a convex profile, 14,16,24 ,36 and 46 were missing ,rotated 24,and 44, spacing was seen in lower anteriors. Objective: Treatment plan was to correct the lateral cross bite by fixed orthodontic appliance in which bite will be raised by posterior bite block, missing 16 space will be closed by moving 17 in to 16 space by orthodontic miniscrews.

Materials and Method: Along with the fixed orthodontic appliance the patient needs to wear the posterior bite plane appliance full time (24 hrs except eating and brushing) Adding a bite plane to the appliance, with acrylic covering the teeth entire lingual and occlusal surfaces and also extending for 2 to 3 mm onto the buccal surfaces, will help to achieve anchorage control and a more bodily movement. Additional bite plan benefits are reduced intercuspation of the opposing teeth, thus enhancing movement. After the leveling, aligning, cross bite and rotation correction, the miniscrew was placed in the first premolar area to mesialize the right upper second molar in to 16 space. After molar mesialization, finishing and detailing were done. Finally the patient was given removable prosthesis for missing 14, 36 and 46 after debonding.

Result and Conclusion: posterior bite plane is very useful appliance to correct lateral cross bite and orthodontic miniscrew helps to mesialize the molar in a lesser period of time and very comfortable to the patient as well as to the orthodontist than conventional orthodontic techniques. A predictable, successful outcome can only be expected if a complete and accurate diagnosis is obtained and used to generate an appropriate treatment plan and procedure.

### **Smile make over and comprehensive rehabilitation case report**

Sokaina Ali Almehdar, Dr. Rawan Alshoubaki, Ibn Sina National College.

**Introduction:** Excellence never be achieved by chance, rather it comes from a consistent, approach to diagnosis, communication, treatment planning and implementation. The data must guide the succeeding phase of the rehabilitation scientifically integrating all of the patient's needs and desires.

**Objective:** The aim of this case to create positive change to the teeth and smile and enhancing of esthetic outcome.

**Materials and Methods:** This case presentation describe the esthetic rehabilitation of 22 years old female patient with non-significant medical history presented to Ibn Sina hospital complaining of bad smile appearance and destructive of upper anterior teeth with radiolucent periapical area related to tooth no.#21,#11 ,in addition she suffers from gingival hyperpigmentaion. We will highlight on how smile design was practical diagnosis method that can assist clinician to visualize and measure dentgingival discrepancies appearance. And highlight on esthetic gingival depigmentation by using rotary bur abrasion technique.

**Result:** This case describes the desired results.

**Conclusion:** this case serves the successful esthetic rehabilitation

### **Esthetic rehabilitation using the gingival depigmentation and restorative technique – A case report**

Ghaida Mazen Zagzoog<sup>1</sup>, Ameera Khaled Alrasheed<sup>1</sup>, Dr. Rawan Alshoubaki<sup>2</sup>,

<sup>1</sup>Intern at Ibn Sina National College, <sup>2</sup> Clinic Supervisor, Ibn Sina National College.

**Introduction**

Esthetic is the sign of beauty, these days the smile become one of the most attractive feature of a person and one of the most facial expression, patient increasingly seek for treatment with primary concern of an esthetic enhancement to their oral condition. Along with teeth, lips and gingiva is also a vital component of smile.

**Materials and Methods:** A 27 years old female patient with insignificant medical history presented to Ibn Sina national college hospital complaining of smile appearance due to her defective anterior fixed partial denture with physiological gingival hyperpigmentation.

**Result:** This case describes the desired results of outstanding periodontics surgical treatment and prosthodontics outcome for achieving acceptable gingival esthetic as well as addressing biologic and functional problem, the case was managed by lithium disilicate crowns, Gingivectomy and deepithelization.

**Conclusion:** As a conclusion, this case serves the successful esthetic rehabilitation and recreation of an esthetic result.

### **Nutritional and oral hygienic guidelines to the orthodontic patients**

Ashwaq Tariq Maqbool, 5<sup>th</sup> BDS student, Ibn Sina National College.

**Introduction:** A good diet and proper oral hygiene maintenance play an important role in maintaining good oral as well as general health. The literature suggest that orthodontic patients' nutritional status can affect the reaction of the tissues to orthodontic forces. Unfortunately the orthodontic patients avoid many types of food, particularly fruits, raw vegetables and other hard and tough foods, as they cannot chew these properly, because of pressure sensitivity of the teeth in the initial 3 -5 day period after routine. As a result such individuals consume significantly less proteins and other key nutrients, fiber, calcium, non-haem iron and some vitamins. Regarding the oral hygiene, patients undergoing orthodontic treatment find it particularly difficult to maintain satisfactory oral hygiene owing to the presence of bands, wires and ligatures. It is therefore crucial to establish preventive motivation and guidance methods to ensure mechanical control of dental plaque.

**Objective:** To establish preventive motivation and guidance methods to ensure mechanical control of dental plaque.

**Materials and methods:** The pub med central data base was used as a main search engine for data collection. This paper presents an overview of the importance of balanced diet and oral hygiene methods for the patients who are undergoing and orthodontic treatment.

**Result:** The nutritional and brushing guidelines and recommendations to obtain good oral and general health in orthodontic patients are discussed.

**Conclusion:** Health promotion and disease prevention should be part and parcel of the care provided by orthodontists directly to their patients whereas oral health care guidance and motivation should be provided before and during treatment.

#### **Orthodontic management of different types of cross bite cases by various treatment modalities.**

Akram Kamal Banah, Abdulrahman Almuntashri, 5<sup>th</sup> BDS Students, Ibn Sina National College.

**Introduction:** Crossbite is an abnormal labiolingual relationship between one or more maxillary and mandibular teeth. Cross bite correction is highly recommended as this kind of malocclusion does not diminish with age. Crossbites that are not corrected may lead to abnormal wear of lower anteriors and cuspal interference, mandibular shift resulting in mandibular asymmetry and temporomandibular joint dysfunction syndrome. Especially uncorrected anterior crossbite may lead to abnormal enamel abrasion or proclination of the mandibular incisors, which, in turn, leads to thinning of the labial alveolar plate and/or gingival recession. The correction of crossbite is more complex than it appears. Accurate diagnosis is required to develop an appropriate treatment plan.

**Objective:** The aim of the study is to correct crossbite using various modalities

**Materials and methods:** This presentation would explain about the different orthodontic treatment modalities to correct the dental, skeletal, single tooth, unilateral and bilateral crossbites. That includes ice cream sticks, maxillary expansion appliance, removable and fixed orthodontic appliance with bite planes and occlusal bite plane.

**Result and Conclusion:** The main advantage of early treatment of anterior crossbite is the opportunity to influence the process of growth in the upper jaw with quite simple and not expensive appliance as well as to avoid in many cases orthognatic surgery in future. Choosing the appliance for correction of anterior crossbite is very crucial to get a proper results.

#### **Management of an infant having natal teeth.**

Dr Tariq Sadayo<sup>1</sup>, Dr Amit Vanka<sup>2</sup>, Mulham Almaliki<sup>1</sup>, Ateeq Alotaibi<sup>1</sup>, Dr Aparna Sheetal<sup>2</sup>

<sup>1</sup> Intern, Ibsina National College for Medical Studies, <sup>2</sup> Staff member, Department of Preventive Dental Sciences.

**Introduction:** The eruption of primary teeth typically begins around the age of 6 months. Teeth observed at birth are considered as natal teeth, or, if observed during the first 30 days, as neonatal teeth, based on the classification given by Massler and Savara [1950]. The exact aetiology has yet to be proved, but there is a correlation between natal teeth and hereditary or environmental factors and some syndromes. Today, this phenomenon attracts significant interest and concern to both parents and clinicians owing to their clinical characteristics (small size, conical shape, great mobility) which can cause complications such as laceration of the mother's nipple during breast feeding, sublingual ulceration and risk of aspiration of the teeth.

**Objective:** Present or identify a review of the literature with important aspects about natal and neonatal teeth.

**Materials and Methods:** To find the relevant articles the databases Medline, Embase and Sciencedirect were searched from 1950 to April 2011.

**Results:** The prevalence of natal and neonatal teeth has been reviewed by many authors all around the world. Allwright reported the incidence of natal teeth as derived from the records of Tsan Yuk hospital in Hong Kong. Out of a total of 6,817, two infants were born with natal teeth and so he estimated the incidence of natal teeth to be 1:3,400. Another study about oral lesions seen at birth the examination of 3,298 infants showed 4 babies with natal teeth and a ratio of 1.2:1,000 live births.

**Conclusion:** The prevalence of natal teeth needs more research in order to be more precise, but there seems to be a higher incidence in certain ethnic groups and certain health conditions. Neonatal teeth are more difficult to monitor than natal teeth, unless they erupt before the new born is discharged from the maternity unit. Thus the data may be a very significant underestimation. In the field of management of natal teeth, prospective, short follow-up studies should be carried out in order for evidence-based treatment to be given to patients.

### **Bleaching Of Non-vital Tooth - A Clinical Case Report.**

Reem Mohammad Shafei. Intern, Ibn Sina National College.

**Introduction:** Internal bleaching also known as tooth whitening. It's restore the natural color of the tooth.

**Objective:** To show the effectiveness of hydrogen peroxide on bleaching of nonvital tooth.

**Materials and methods:** 40 years old male patient came to dental clinic in Ibn Sina National College with a chief complaint of discolored tooth caused by trauma few years ago, after diagnosis of the patient, there are many options to restore natural color of the tooth, the most likely in office bleaching, as it's a low risk treatment to improve esthetic, using 35% of hydrogen peroxide applied onto and in the tooth.

**Results:** The tooth color is lightening each time when applied the material onto the tooth.

**Conclusion:** Hydrogen peroxide is effective in whitening, the more concentrated application time; the more result we get.

### **Endo Crown for Restoration of Endodontically Treated Molars**

Dr. Narendra Basutkar<sup>1</sup>, Hussam Mohammad Abdulaal<sup>2</sup>, Mohammad kamelalhashmyalamer<sup>2</sup>, Youssef Jadallahbajnaid<sup>2</sup>, Thamer Abdullah Alharbi<sup>2</sup>.

<sup>1</sup> Assistant Professor, Department of Prosthodontics

<sup>2</sup> Intern, Ibn Sina National College.

**Introduction:** The patient came in with a supra-erupted tooth, which went for intentional endodontic treatment. The patient refused to go for orthodontic treatment and perio surgical procedure "crown lengthening". She wanted to conserve his bone, gingiva and what's remaining of the tooth structure. So we had to find a different approach for his treatment plan. Endo-Crown was chosen as we can take the retention from the pulp chamber and maintain whatever is left from his tooth, gingiva and bone. The endo-crown is indicated for an endodontically treated tooth that has significant loss of coronal structure. The pulp chamber is prepared but the preparation doesn't extend into the root canals. Porcelain endo crown will be used which is biocompatible. Clinical studies have shown that the endo-crown is promising alternative in the aesthetic and functional recovery of endodontically treated molar.

**Objective:** A conservative approach to restore the tooth with a suitable restoration due to the limited options.

**Material and Methods:** The preparation consisted of a central retention cavity into the entire pulp chamber constructing both the crown and the core as a single unit. The appropriate reduction of the buccal and lingual walls was done Interocclusal space was carefully evaluated and occlusal reduction done to achieve a clearance of 2 mm.

impressions made, sent to the lab, inserted by using the resin cement.

Result: Endo-Crown was done to the tooth, showing success in both functional and ethical advantages without touching the gingiva for crown lengthening

Conclusion: Endo-Crowns are showing great results and can be alternative use in restoring the aesthetic and functional recovery of an endodontically treated molar.

### Traumatic Fibroma in Adult Patient

Yara T. Fageeha<sup>1</sup>, Dr. Ahmad Al-Zahrani<sup>2</sup>, Raida'a A. Al-Gharawi<sup>1</sup>.

<sup>1</sup>Intern, Ibn Sina National College

<sup>2</sup>Assistant Professor, Umm Alqurra University.

Introduction: Irritation Fibromas a common benign tumor. It can occur at any age that may influence any district of the gingiva or alveolar mucosa of edentulous and toothed ranges, especially in the cheek, tongue, gums and lower lip, it's more common in adults and infrequently happening in kids.

Material and methods: This report illustrates the clinical and histopathological finding of a mass observed in the maxilla of a 24-year-old male after facial trauma due to fighting.

The oral lesion was asymptomatic, pedunculated, pink colored mass in the attached gingiva. Approximately the size was 3X1 Cm, located in between upper left canine and 1st premolar it extends from palatal side to buccal vestibule.

During surgery, thorough medical and dental history was taken. After local anesthesia had been achieved, a small incision done using scalpel blades size 15 to remove the lesion for excision biopsy and send it to the lab to get the final diagnosis. The patient received routine postsurgical instructions, one week after the surgical procedure, the patient reported with no major problems at the surgical sites.

Result: Histopathology shows that the whole tissue lined by variably thickened Parakeratotic Stratified Squamous Epithelium. All along it shows intact basement membrane. Few areas show mononuclear inflammatory infiltrate with mild exocytosis. No osteoclastic type of giant cells seen and no evidence of any neoplastic pathology. The final diagnosis is Irritation Fibroma

Conclusion: Irritation fibroma clinically resembles as peripheral giant cell granuloma or odontogenic tumors, so radiographic and histopathological examination is essential for accurate diagnosis.

### Badly destructed tooth ... Can it be saved? - Case Report

Aram Mohammed Alfozan<sup>1</sup>, Dr Waleed Saeed SunAllah<sup>2</sup>, Dr Bashar Abdelhamide Al Dewik<sup>2</sup>, Rofydah Mohammed Alfozan<sup>3</sup>.

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Introduction: Treatment decisions and strategies should be based on the best and most-up-to-date factual evidence available. Evidence-based dentistry is influencing the evaluation and adaptation of many treatment methods.

Objective: Describing how to maintain a severely decayed molar, which is difficult to save and requires different stages and dexterity.

Methods and materials: A careful planned treatment was designed based on a collection of approved studies which have been followed to restore tooth 47 to receive a crown. Result: Endodontic therapy followed by custom made post and core were achieved and casted. In addition, tooth 47 was prepared for a full metal crown. Then crown lengthening was carried out to avoid violating the

biological width. Finally, a full metal crown was fabricated and cemented.

**Conclusion:** The case was re-evaluated 3 months later after the procedure implementation showing a satisfactory result.

### **Orbital Fibro sarcoma: a case report and literature review.**

Emad Ridha Suruogi, Ziad Abdulraheem ALZaidi, Abdullah Mohammed Beyari, Omar Hassan Izmirili, Interns, Ibn Sina National College.

**Introduction:** Pediatric orbital fibrosarcoma is an uncommon tumor that occurs occasionally in the periorbital and orbital regions. This article reports one case of orbital fibrosarcoma and describes the associated clinical, histopathological, and radiological findings. It's an interventional case report, with clinicopathologic correlation. Intervention Treatment consisted of preoperative chemotherapy and excision of tumors.

**Objective:** Main outcome measures Histological and clinical evaluation of the tumor.

**Materials and Method:** The patient was a 5-month-old boy with a large tumor extending from his left orbit. Histological and radiological nuclear medicine was used to evaluate the lesion and the possibility of bone marrow involvement. He presented with continuous tearing, white discharge, and proptosis in his left eye. Incisional biopsy revealed a tumor consistent with congenital orbital fibrosarcoma. He completed six cycles of chemotherapy, followed by gross surgical resection and remains tumor free one and half years later.

**Conclusion:** Congenital orbital fibrosarcoma is a rare tumor that occurs in the orbit. Differential diagnosis based on histological features can be difficult. As soon as the diagnosis is made, brain, orbits, chest, and abdominal imaging is used to evaluate the presence of distant metastasis, and a bone scan is conducted to detect any

bone involvement. Surgical treatment and chemotherapy remain the treatment of choice and lead to a favorable prognosis.

### **Orthodontic management of skeletal class III malocclusion**

Duaa Yousif I Bakhsh<sup>1</sup>, Dr. Kavitha D Marusamy<sup>2</sup>.

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**Introduction:** The occurrence of Class III malocclusion is believed to be hereditary and that have combinations of skeletal and dentoalveolar components. The objective of early orthodontic treatment is to create an environment in which a more favorable dentofacial development can occur. The goals of early Class III treatment may include to prevent progressive irreversible soft tissue or bony changes, improve skeletal discrepancies and provide a more favorable environment for future growth, improve occlusal function, simplify phase II comprehensive treatment and to provide more pleasing facial esthetics, thus improving the psychosocial development of a child. Early treatment methods includes rapid maxillary expansion appliance or RME with face mask and chin cup therapy. Adult class III correction can be done by camouflage or surgical correction. Orthodontic camouflage in patients with slight or moderate skeletal Class III malocclusions can be obtained through different treatment alternatives.

**Objective:** To explain about the diagnostic and various treatment modalities to correct skeletal class III malocclusion.

**Materials and methods :** In this presentation , how early class III correction will be done by Rapid maxillary expansion appliance and reverse pull head gear and camouflage treatment by extracting lower premolar followed by fixed orthodontic treatment will be shown.

**Conclusion:** Management of class III malocclusion needs proper diagnosis and treatment plan to obtain good

esthetics, stable dental articulation and ideal skeletal disharmony.

## Reviews

### What are Secrets of Successful Practice?

Dr. Rehab AlSaleh

Current medical practice is quite complicated. It is affected by several factors like patient expectation, community needs, limited resources & explosion of technology. New concepts are controlling results like involvement of teams during work, control & evaluation by several agencies.

This presentation will discuss in brief current local competency system which is approved by SCFHS. The system used is CAN med frame work

Objective: To inform attendees, especially students what is current competencies used at KSA

Methods of delivery: 6 competencies listed in Can med will be discussed in brief .examples about implementation in practice will be given. Suggestions about important considerations to concentrate on during their undergraduate years will be highlighted. Health advocate is currently run by some community & in house activities

### A Research Overview on Drug Design and Pharmaceutical Chemistry

Dr. Ekhlass Nassar, Pharmaceutical Chemistry Department, Faculty of Pharmacy, Ibn Sina National College for Medical Studies, Jeddah, Saudi Arabia, Chemistry Department, Faculty of Women for Arts, Science and Education, Ain Shams University, Cairo, Egypt.

An interesting aim is the synthesis of heterocyclic compounds with different potential biological activities in addition to its importance in chemical biology and medicinal chemistry. So, we endeavored to direct our research program to two main trends.

First Trend The main trend is to prepare many of the functional chalcone compounds ( $\alpha$ ,  $\beta$ -unsaturated carbonyl compounds) and use these chalcones in the synthesis of a large number of organic promising heterocycles, Where the chalcone compounds are known as important precursors of many characteristic heterocyclic compounds having broad bands of biological and pharmaceutical applications .

Second Trend Synthesis and study of a large number of different bioactive heterocyclic compounds through the collaborations.

### Crown lengthening and soft tissue surgery, can "Lasers" do it all?

Dr. Mohammad Khaled Alhelaili, Ibn Sina National College for Medical Studies

Fear of dental appointments is common due to the discomfort and pain experienced in some dental procedures, not to mention; drilling sounds and sharp instruments that aggravate those concerns. Lasers in dentistry, help address some of those areas. Laser assisted crown lengthening (LACL) in comparison to conventional scalpel use. The lecture will also address some mistakes related the use of lasers in dental practice. A quick review of literature With less blood, less need for anesthesia, less post-operative pain, lasers are proven to be a helpful armamentarium in every dental clinic.

Conclusion: Although laser can't "do it all" it's enhancing the dental experience for both, the patient and the dentist, it's becoming (Soft tissue handpiece) due to the ease of its use and favorable results when studied properly.

### Nutritional Recommendations for orthodontic patients. An Overview

Asra Sabir Hussain., Batterjee Medical College.

**Introduction:** Oral hygiene care and Dietary modifications are two crucial elements that maintain the periodontal health in orthodontic patients during the Treatment stages. Fixed Orthodontic Appliances are known to affect the eating process therefore, Targeted Nutritional guidance is mandatory to be advised in orthodontic patients.

**Objective:** The objective of this review was to discuss the Nutritional guidance recommended for orthodontic patients.

**Materials and Method:** Dietary modifications are necessary during orthodontic treatment. Patients must be motivated towards healthier eating habits. A Study conducted by Shirazi ASI et al showed that orthodontic patients consumed total calories, protein and carbohydrate and significantly lower fiber, chromium, and beta- carotene intake compared with the control group. Riordan SJ conducted a study on ten patients to compare nutrient intake prior and after orthodontic treatment. Results showed decrease in calcium and magnesium intake after orthodontic adjustments. A study conducted by Abed Al Jawad F showed that the dietary habits of patients were changed as a result of pain. Therefore, Patients must increase the soft dietary intake to reduce pressure sensitivity. A review by R. Paul et al showed that braces friendly dietary intake must be instructed by all orthodontists. Nevertheless, Patients with Fixed Orthodontic Appliances seem to be at higher risk of Dental Erosion. Therefore, Prevention approach must be initiated to decrease the amount of acidic drinks in their daily routine life. Moreover, Patients must be instructed to Perform brushing prior to acidic drinks intake rather than after to minimize Enamel and dentin wear. Some studies reported the use of Protein containing toothpastes seem to be promising in preventing erosion.

**Conclusion:** Orthodontists and Dentists must educate their patients and reinforce oral health care and dietary modifications during the orthodontic treatment that helps in maintaining the oral health as well as systemic health.

Recommendations should be directed to Nutrition with high potential of Periodontal Tissue healing.

### **The Impact of Smoking (nicotine) on the Periodontium**

Areej Salem Sunbol, Deema Hasim Alghalib, Sahar Abbas Alnahdi, Suzan Essam Jiffri, Interns, Ibn Sina National College.

**Introduction:** As it has been proven that nicotine has a harmful effect on the oral health. It was considered the most toxic substance to periodontal tissues and a significant contributing factor on the periodontium. In this review we concluded that nicotine has a wide spread systemic effects. As it enhances the progression and development of periodontal exacerbation through calculus accumulation, increased pocket depth, loss of periodontal attachment, alveolar bone and tooth loss. Nicotine affects gingival blood flow, cytokine production, neutrophils and other immune cell function in addition to connective tissue turn over.

**Objective:** the purpose of this study is to present a review of the harmful effects of nicotine and its mechanisms

**Review Results:** smoking is a major risk factor for periodontal diseases. The mechanisms by which nicotine use causes periodontal destruction still needs further investigation to be better understood.

**Conclusion:** smoking cessation is the main option to revert the harmful effect of tobacco on periodontal risk and therapy.