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International Journal of Pharma and Bio Sciences
ISSN 0975 - 6299

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Abst: 1

**MOLECULAR MECHANISMS OF DIABETIC NEPHROPATHY,
GENERAL PREVENTIVE MEASURES AND NOVEL THERAPEUTIC
STRATEGIES**

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Diabetic nephropathy (DN) is major micro-vascular complication in diabetes mellitus (DM). One third of type 1 DM and 1/6th of type 2 DM develop DN account for more than 30% of total end stage renal disorders (ESRD), the main cause of renal replacement therapy. It is characterized by mesangial expansion, glomerulosclerosis and increased intracellular matrix accumulation. Injury of podocytes and reduced cellular density are considered to be root of the disease. Molecular mechanisms that leads diabetic patients toward nephropathy is hyperglycemia induced production of reactive oxygen species (ROS), advanced glycation end products , activation of polyol pathway, increased expression of TGF- β , angiotensin II and aldosterone induced oxidative injury. DN can be prevented by controlling the glycemic levels, blood pressure, body weight and consumption of low protein diets along with high potassium supplementation. Therapeutic strategies including intensive glycemic control, blockage of the renin-angiotensin system and anti-hypertensive therapies are proved to be beneficial but still failed to gain complete response. Limited researches is focused toward invent and formulate novel therapeutic agents that would be able to target at a molecular level so as to be more beneficial even if the glycemic level is not well controlled. Therapeutic strategies may include advanced glycation end products inhibitors, blockers of receptors for advanced glycation end products, PKC targeted agents, tyrosine kinase inhibitors and mitochondria targeted anti-oxidants. Understanding of the molecular mechanisms of DN has resulted in the suggestion of beneficial preventive measures and new therapies that focus more precisely on the underlying path physiology.

Keywords: Diabetic nephropathy, Diabetes mellitus, end stage renal disorders, Renal replacement therapy, Glomerulosclerosis, Mesangial expansion, Reactive oxygen species



Abst: 2

**MIPOMERSEN: A NOVEL THERAPEUTIC DRUG FOR THE
TREATMENT OF FAMILIAL HYPERCHOLESTEROLEMIA,
HYPERLIPIDAEMIA AND HYPERCHOLESTEROLEMIA**

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Familial Hypercholesterolemia (FH) is the most common autosomal dominant disorder which exists in two forms: a. heterozygous familial hypercholesterolemia (HeFH) and b. homozygous familial hypercholesterolemia (HoFH). These are prevalent in 1 in 500 and 1 in a million population respectively. These result in premature atherosclerosis, as early as childhood in case of homozygous (HoFH) form and in adults in case of heterozygous (HeFH) form. In case of HoFH both the alleles for LDL-receptor are defective; whereas the mutation in the single allele is the cause for HeFH. Both the forms of the disease are associated with high levels of LDL-C and lipoprotein in plasma, with high morbidity and mortality rate caused by cardiovascular disease. In several past years, different lipid-lowering drugs like Statins (HMG-coenzyme-A reductase inhibitor), MTPP inhibitor, CETP inhibitors, PCSK9 inhibitor, thyroid mimetics, niacin, bile acid sequestrants and lipid apheresis were administered to patients with FH to achieve the goal of reducing plasma LDL-C and lipoprotein a. However, such drugs were not much efficient to achieve the goals because of several reasons. Mipomersen is a 20 nucleotide antisense oligonucleotide, a novel lipid-lowering therapeutic drug currently enrolled in the treatment of patients with HoFH, HeFH and other form of hypercholesterolemia. It arrests the synthesis of Apo B100 by targeting Apo B100 mRNA and inhibiting the synthesis and release of all Apo B containing lipoproteins, such as very low density lipoprotein, intermediate density lipoprotein, low density lipoprotein, and non-high density lipoprotein and also lowers lipoprotein a, reducing the severity of coronary artery disease and cardio vascular disease.

Keywords: Hypercholesterolemia, Heterozygous, Mipomersen, Cholesterol, Lipoprotein, antisense oligonucleotide



Abst: 3

**CREATININE CLEARANCE: CORRELATION BETWEEN ESTIMATED
VALUE AND CALCULATED VALUE USING COCKROFT-GAULT
FORMULAR**

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Glomerular filtration rate (GFR) is an important index for the assessment of the clinical course of renal disease and forms the basis for classification of chronic kidney disease into different stages. These stages that are derived from GFR closely reflect abnormalities of renal function and though equip nephrologist with a necessary tool to establish management strategies. In this study, the creatinine clearance of patients suffering from chronic kidney disease is determined using 24 hours urine. The creatinine clearance was also determined using the formula of cockroft-gault. There is a correlation in creatinine clearance between 24 hours urine and clearance using the formula for both patients and controls. The correlation was determined by pearson's correlation with correlation coefficient 0.334 ($p=0.190$). The result of the study shows that the correlation was not statistically significant ($p>0.05$). For control subjects, the correlation (r) was 0.200 ($p=0.349$). In conclusion, the determination of creatinine clearance using 24 hours urine collection remains the best in our setting.

Keywords: Glomerular Filtration Rate (GFR), Creatinine clearance, Chronic kidney disease, Cockcroft-Gault formular



Abst: 4

**EXTRACTION OF FLAVONOIDS FROM *CAMELLIA SINENSIS* AND ITS
IN VITRO EFFICACY AGAINST SOME HUMAN PATHOGENS**

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In the present study, *Camellia sinensis* leaves were used for extraction of polyphenols such as Myricetin ($C_{15}H_{10}O_8$), Quercetin ($C_{15}H_{10}O_7$), Kaempferol ($C_{15}H_{10}O_6$), Epigallocatechingallate ($C_{22}H_{18}O_{11}$) and Catechin ($C_{15}H_{14}O_6$). Purity and recovery of polyphenols extracts were confirmed by UV-Vis spectroscopy. Different concentrations of polyphenols were tested for antibacterial activity against some Gram negative and Gram positive human pathogenic bacteria as well as some pathogenic fungi by disc diffusion method. Antimicrobial assays were performed at different concentrations by preparing paper disc of those extracted components separately. MICs were 3.12 mgdl^{-1} , 12.5 mgdl^{-1} and 100 mgdl^{-1} for Catechin, Epigallocatechingallate, and combination of Myricetin, Quercetin, Kaempferol, respectively against selected gram positive bacteria and 3.12 mgdl^{-1} , 6.25 mgdl^{-1} and 12.5 mgdl^{-1} for gram negative bacteria where as in fungus the exhibited values were 3.12 mgdl^{-1} and 6.25 mgdl^{-1} for Catechin, Epigallocatechingallate and combination of Myricetin, Quercetin, Kaempferol, respectively. Thus it can be concluded that there is therapeutic potential of green tea extract against human microbial pathogens.

Keywords: Green tea flavonoids, Myricetin, Quercetin, Kaempferol, Epigallocatechingallate, Catechin, Antibacterial activity, Antifungal activity, Disc diffusion method.



Abst: 5

**DIABETES ASSOCIATED MALE REPRODUCTIVE DYSFUNCTIONS:
DIAGNOSIS, PREVALENCE AND RISK FACTORS**

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Diabetes mellitus (DM) is one of the most common chronic metabolic disease worldwide involving male reproductive dysfunctions. Male diabetic are more prone to a varieties of sexual disorders including impotence, retrograde ejaculation, premature ejaculation, sexual drive, decreased libido, delayed sexual maturation, infertility and erectile dysfunction. The incidence of impotence in diabetic subjects is two to five time higher than in non-diabetic subjects. The epidemiological data revealed that 20-30% of adult men have one reproductive dysfunction and found to be increasing with advancing of age. The prevalence rate of ejaculatory disturbance and orgasmic dysfunction were estimated in the range of 9-31% and 7-8%, respectively. DM associated male reproductive dysfunctions pose major risk with advancing of age, longer duration of diabetes, poor glyceemic control, several medication, psychological and high consumption of alcohol. The physical factors (hormonal, vascular, neurological, alcohol and drug addiction) as well as psychological factors (ignorance, negative attitude toward sex, poor self esteem marital disharmony and anxiety over sexual performance) are also involved. There is no specific diagnosis available for detection of DM associated male reproductive dysfunction but patient history, physical assessment, psychological assessment, semen analysis which include semen mortality, semen viability and semen morphology are useful to as diagnostic purpose. Recent therapeutic strategies may involve correcting of physical and psychological factors.

Keywords: Diabetes mellitus, Male reproductive dysfunctions, Delayed sexual maturation, Glyceemic control, Retrograde ejaculation, Semen morphology



Abst: 6

**ANTIMICROBIAL EFFECT OF CHITOSAN ON DENTAL PATHOGENS
ENTEROCOCCUS FAECALIS AND *CANDIDA ALBICANS***

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Dental caries is proved to be the most prevalent chronic diseases of people worldwide. The disease may involve decay of enamel, dentine and cement causing decalcification of these tissues and disintegration of the organic substances. In this respect, chitosan has been widely used as a topical dressing in wound management owing to its hemostatic, stimulation of healing, antimicrobial, nontoxic, biocompatible and biodegradable properties. Keeping this in mind the present study was carried out wherein, the antimicrobial effect of chitosan was evaluated against *Enterococcus faecalis* and *Candida albicans* by the agar well diffusion method. The IC₅₀ and MIC of chitosan were determined by the CFU method. IC₅₀ of chitosan for *E. faecalis* was found to be 2.7 mg/ml and for *C. albicans* is 3.1 mg/ml. Furthermore, the minimum inhibitory concentration (MIC) of chitosan for *E. faecalis* is 4.5mg/ml and *C. albicans* is 5mg/ml. In addition to this a synergistic effect of chitosan along with acetic acid was also checked by Well Agar Diffusion and CFU method.

Keywords: Dental caries, *Enterococcus faecalis*, *Candida albicans*, Chitosan, IC₅₀, MIC



Abst: 7

**BIO-COMPATIBLE COATINGS ON BIO-IMPLANTS USING THERMAL
SPRAY TECHNIQUES: A REVIEW**

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Thermal spray technology is a versatile group of techniques used to deposit thick layers of spray material onto a substrate. In the current scenario, various thermal spray techniques such as Plasma spray, High Velocity Oxy-Fuel spray, and Cold spray etc are widely being used for coating bio-implants to enhance their bio-compatibility. This paper reviews the work of various researchers in the field of devising and developing the applications of thermal spray coatings over bio-implants. This paper includes the comparison study of different thermal spray techniques employed for bio-coatings.

Keywords: Bio-implants, Bio-Compatibility, Bio-Coatings, Coating deposition, Thermal spray



Abst: 8

BACTERIOLOGICAL PROFILE OF BURNS AND WOUNDS INFECTION IN A TERTIARY CARE HOSPITAL OF JAMMU INDIA

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Burn and wound infections are the most severe cause of mortality in patients in the burn and surgical units. The aim of this study is to determine the Bacteriological profile of burns and wounds infection in tertiary care hospital, Jammu. In this study a total of 180 pus and skin swab samples were collected from inpatient and outpatient wards of Govt. Medical College, Jammu. Isolation and identification of microorganisms were done using the standard procedure. Disk diffusion test were performed for all the isolates for antimicrobial susceptibility. A total of 180 pus and burn wound swab were collected. During processing, out of 180 total samples 100 were found positive and 80 were sterile. The most common age group was in between 20 to 40 years. Out of 100 positive cultures, 34 (34%) were Gram positive and 66 (66%) were found to be Gram negative. In our study, *Escherichia coli* is the dominant bacteria i.e (20; 30.3%), followed by *Staphylococcus aureus* (18; 52.94%), *Pseudomonas* (16; 24.2%), *Klebsiella* (15; 22.7%), *Proteus* (9; 13%), *Acinetobacter* (4; 6.06%) and *Citrobacter* (2; 3.03%). The antibiotic susceptibility test of the bacterial isolate was performed by Kirby-Bauer disk diffusion method. Majority of the bacterial isolates were resistant to almost all the antimicrobials employed. In our study in Govt. Medical College, *E. coli* was the commonest isolate followed by *Staphylococcus aureus*. Vancomycin and Linezolid showed best activity for *S. aureus* and that for gram negative bacilli Imipenam showed best action. Gram negative organisms showed multidrug resistance as compared to gram positive organisms. Methicillin resistance in *S. aureus* was found to in 33.3% samples. Data of present study gives idea of prevailing antibiotic resistance pattern in burns and wound infections in this area. This study suggests that hygiene should strictly be maintained around burn patients to avoid opportunistic infections and need special care.

Keywords: Burn, wound infections; multi-drug resistant; susceptibility pattern.



Abst: 9

**ISOLATION AND SCREENING OF ENVIRONMENTAL MICROBES FOR
DETOXIFICATION AND DECOLOURISATION OF TEXTILE DYE
WASTE**

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Azo dyes are widely used in textile industry. Unused dyes are released along with waste water streams without any proper pretreatment. As these dyes are non biodegradable so cause nuisance for environment and accumulate in flora and fauna. It has allergic, carcinogenic and mutagenic properties for human beings. Isolation and screening of Azo dye degrading bacteria might be helpful for low cost biological treatment that can biodegrade and detoxify. In the present study, 200 waste water samples were collected from dye-contaminated sites of textile industries. Different bacterial species were isolated and identified as *Bacillus subtilis*, *Pseudomonas aeruginosa* and *Psuedomonas putida*. Decolorizing properties of bacteria were screened in different concentration of different carbon sources on Hans's medium and decolorization of textile waste water was determined by using UV-Vis spectroscopy at the maximum absorbance of 596 nm. Results showed that 1gm/ml fructose containing isolated bacterial cultures were capable of maximum decolorization which amounted to 66%. The degraded products after decolorization were examined by thin layer chromatography. These decolorized bacterial isolates may be helpful in the ecological balance and preventing from water pollution and human health.

Keywords: Azo dye, Waste water, Textile industry, Bioremediation, Carcinogenic.



Abst: 10

**ANTIBIOGRAM PROFILES OF ESBL PRODUCING *ESCHERICHIA COLI*
IN PATIENTS WITH URINARY TRACT INFECTION
IN PUNJAB (INDIA)**

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The incidence of ESBL producing *Escherichia coli* strains among clinical isolates has been steadily increasing over the past years resulting in limitation of therapeutic options. These enzymes are plasmid borne and confer multiple drug resistance, making “urinary tract infection” difficult to treat. This study was conducted in Punjab Institute of Medical Sciences (PIMS) Jalandhar, Punjab. Total 953 urine samples were collected from outdoor as well as indoor patients. Urinary Tract Infection was more common in females than males. Out of 953 urine samples 173 urine samples were positive for Uropathogens. The most frequent isolate of urinary tract infection was *Escherichia coli* (77.09%). ESBL producing *Escherichia coli* were found to be 55.79%. Maximum resistance in cephalosporins was seen in cefotaxime (54.34%) followed by cefodoxil (52.17%). Resistance to β -lactamase inhibitors were also found. Amoxyclav was highly resistant among all beta- lactamases inhibitors showing 47.82% of resistance. Among fluoroquinolones gatifloxacin (2.8%) was least resistant and ciprofloxacin (52.17%) was highly resistant. The most sensitive drug found was polymyxin B as it was not resistant to any of the strain of *Escherichia coli* followed by Imipenem. The efforts to control outbreaks of such infections should emphasize the judicious use of all antibiotics as well as necessary precautions to reduce spread.

Keywords: ESBL, Multi drug resistance, Antibioqram , *E.coli*, Urinary tract infection



Abst: 11

**ANTIFUNGAL ANALYSIS OF LEAVES OF *CALOTROPIS GIGANTAE*
ON THE *CANDIDA ALBICANS* INDUCED CANDIDIASIS
IN RAT MODEL**

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Calotropis gigantea is a waste land weed and has the great medicinal value. The antifungal activity of the *Calotropis gigantea* (Akawa) was observed in vivo in the white wistar rats. The antifungal activity of methanolic extract was observed in both oral as well as systemic candidiasis. The phytochemical screening has shown the presence of the carbohydrates, alkaloids, flavonoids, glycosides and tannins. The antioxidant activity was observed and has shown significant DPPH scavenging activity. The methanolic extract has also shown the significant reducing power activity. Total phenolic content was found to be 6 mg/gm GAE. The dose of 400mg/kg body weight of ethanolic extract was given to the both oral candidiasis group and the systemic candidiasis group. Candidiasis was observed in the vehicle treated group of rats and was lesser in the extract treated groups. While as in case of the Amphotericin B groups no candidial infection was observed. In vitro antifungal activity of methanolic and pet ether were found 12.5 ± 2.82 , 13 ± 3.18 , 13.5 ± 2.82 , 14 ± 3.18 and 10.75 ± 1.06 , 11.5 ± 0.70 , 12.25 ± 1.06 , 12.75 ± 2.47 respectively for 200, 250, 300, 350 mg/ml of both extracts. The methanolic extract was found to have the good antifungal activity.

Keywords: Antifungal activity, Antioxidant, Free radical, DPPH Scavenging, Wistar rats.



Abst: 12

**OXIDATIVE DNA DAMAGE AND TELOMERASE SHORTENING
AS AN MARKER FOR TYPE 2 DIABETES MELLITUS
AND GESTATIONAL DIABETES**

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Diabetes mellitus is a chronic metabolic disorder which is caused by insufficient or inefficient insulin and characterized by hyperglycemia. According to WHO, about 1.5 million people died from diabetes-related disorders in 2012. Glucose mediated increase in Reactive Oxygen Species (ROS) leads to the dysfunctioning of endothelial cells that directly or indirectly leads to the impaired pancreatic β -cell function and glucose intolerance. The sensitivity of pancreatic β -cell to ROS can be explained as they are low in free radical scavenging antioxidant enzymes like glutathione peroxidase, catalase and superoxide dismutase. Apart from these complications the generation of ROS leads to the oxidative stress in various tissues which ultimately causes protein, lipid and DNA modifications and telomere shortening. The elevated ROS in diabetes causes single strand and double strand DNA nicks along with base modifications. The oxidation of guanine residues to 8-OHdG (8-hydroxydeoxyguanosine) is the most frequently detected and studied DNA lesion. The analysis of oxidized bases can be done with the help of various recent techniques including; HPLC, gas chromatography-mass spectrometry (GC-MS), PCR, TUNEL assay, Electrochemical methods and Fluorescence in situ hybridization (FISH). The determination of 8-OHdG in particular is done using competitive ELISA and Single cell gel electrophoresis (SCGE) also known as comet assay. 8-OHdG not only serves as a new sensitive biomarker of the oxidative DNA damage, its urinary concentration can help understand the relationship between it and other clinical parameters of diabetes. This is depicted by the significantly higher urine concentration of 8-OHdG in the patients with type 2 diabetes, especially those with proliferative retinopathy. Women with mild gestational hyperglycemia and increased urine concentration of 8-OHdG are at a high risk of Gestational Diabetes Mellitus (GDM). Measurement of urinary 8-OHdG can be a novel method for assessing oxidative DNA damage in patients with diabetes and also a sensitive biomarker for the early diagnosis of GDM.

Keywords: Diabetes, ROS, 8-hydroxydeoxyguanosine, GDM, Triphosphate nick end labeling.



Abst: 13

**FABRICATION AND CHARACTERISATION OF HYDROXYAPATITE
AND TITANIUM ALLOYS BIOMATERIALS**

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This study presents the fabrication and characterization of composite materials of hydroxyapatite and TiO₂n nanocomposites for bone tissue regeneration. The purpose of our study is to develop a material that may be ultimately be used as orthopaedic implants. The hydroxyapatite (HA) powder was obtained from synthesis by the dissolution-precipitation reaction of solid/liquid phase of CaO and phosphoric acid to form a composition with a Ca/P molar ratio of 1.67. Mixture of hydroxyapatite and TiO₂n was produced in ratio 7:3. We will conclude the results by hardness test, porosity test and compression test. To top it up, in my opinion this technology can be used for the betterment for medicinal science.

Keywords: Bone tissue, Hydroxyapatite, Titanium oxide, Porosity



Abst: 14

PREVALENCE, IDENTIFICATION AND ANTIBIOTIC SUSCEPTIBILITY PATTERN OF PUS BACTERIAL ISOLATES FROM A TERTIARY CARE HOSPITAL OF JALANDHAR, PUNJAB

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In this study, we determined the prevalence of bacterial infections among inpatients and outpatients of different wards in a tertiary care hospital of Jalandhar, Punjab and also elucidated their antibiotic sensitivity pattern. A total of 143 pus samples were collected from inpatient and outpatient wards of Patel Hospital, Jalandhar, Punjab. Culture and biochemical methods were employed for characterization of the isolates. Antibiotic susceptibility profile of each isolate was evaluated against 18 antibiotics by Kirby-Bauer disc diffusion method. Isolates were categorized susceptible, intermediate or resistant based on CLSI standard charts. Of 86 pathogens isolated from pus samples, 66 isolates were Gram-negative bacilli (76.7%) and remaining 20 were Gram-positive cocci (23.3%). *E. coli* was the most prevalent pathogen as revealed by its occurrence in 51% of all pus samples. The other isolates were identified as *Staphylococcus aureus* (21%), *Klebsiella* spp. (12%), *Pseudomonas aeruginosa* (10%), *Citrobacter* spp. (5%) and *Acinetobacter baumannii* (2%), *Proteus mirabilis* (2%) and streptococci (2%). *E. coli* isolates exhibited resistant to amoxicillin/clavunalic acid and cefuroxime. However, *S. aureus* was only intermediate susceptible to amoxicillin/clavunalic acid, ampicillin and ciprofloxacin. On the other hand, *P. aeruginosa* was resistant to amoxicillin/clavunalic acid, cefotaxime and cefuroxime. Interestingly, *Citrobacter* isolates were resistant to eight antibiotics whereas *P. mirabilis* and streptococci were susceptible to almost all the antibiotics. *A. baumannii* was found to be multidrug resistant as revealed by its resistance against all the antibiotics tested in this study. Occurrence of multidrug resistance in pus bacterial isolates against clinically used antibiotics present an alarming situation and thus necessitates its effective management through rational and combinatorial antibiotic regimens.

Keywords: Pus infection; surgical site infections; multidrug resistance; Gram-negative bacilli; Gram-positive cocci



Abst: 15

EFFECTIVENESS OF ABDOMINAL MANOEUVRE WITH QUADRUPED POSITION VERSUS SWISS BALL TRAINING OF TRANSVERSE ABDOMINIS IN PATIENTS WITH CHRONIC LOW BACK PAIN: AN EMG STUDY

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Chronic low back pain is defined as pain in the lower back that lasts longer than three months, localised below the coastal margin and above the inferior gluteal folds. Few muscles were more important in stabilization of the spine as Transverse abdominis. Abdominal Drawing Manoeuvre is the best procedure to activate isolately on Transverse abdominis muscle and is the basic exercise program for low back pain. Here we are using Abdominal Drawing in Manoeuvre, Quadruped Position and Swiss Ball training while this isolately contracts on Transverse abdominis. The purpose of the study is to find out new insight to the patients of chronic low back pain with the techniques of Abdominal Drawing-In manoeuvre with Quadruped Position and Swiss Ball training. 10 patients were included in this pilot study. As Group A (5 patients) received Abdominal Drawing-In manoeuvre with Quadruped Position and Group B (5 patients) received Abdominal Drawing-In manoeuvre with Swiss ball training for about 10 repetitions, 3sets a day for 3 weeks duration. Paired t-test and unpaired t-test are used to analyse the data. In this study we calculated t (8) value of pre NPRS of both the groups is 1.00 with significance of >0.05 , post NPRS value of both the groups is -1.00 with significance of >0.05 , t(8) value of pre Modified Oswestry Disability Questionnaire (MODQ) of both the groups is 0.00 with significance of >0.05 and post MODQ value of both the groups is 0.452 with significance of >0.05 , t(8) value of pre EMG (amplitude) of both the groups is 0.914 with significance of >0.05 and post EMG (amplitude) of value of both the groups is 2.652 with significance of <0.05 . This study concludes that Abdominal Drawing-In manoeuvre with QUADRUPED position exercise and Abdominal Drawing-In manoeuvre with SWISS BALL training exercises both are equally significant in reducing pain and disability in patients with chronic low back pain.

Keywords: Chronic low back pain, Abdominal Drawing-In manoeuvre, Quadruped Position, Swiss Ball training.



Abst: 16

WORLDWIDE PREVALENCE AND TREATMENT METHODS IN PREDIABETES

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People with prediabetes have an increased risk of developing type 2 diabetes, heart disease, and stroke. In 2005–2008, based on fasting glucose or A1C levels (Glycated haemoglobin), 35 % of United States adults ages 20 years or older had prediabetes 50 % of those ages 65 years or older. Applying this percentage to the entire United States population in 2010 yields an estimated 79 million Americans ages 20 years or older with prediabetes. New figures for diabetes prevalence in India indicate that the epidemic is progressing rapidly across the nation, reaching a total of 62.4 million persons with diabetes in 2011. The prevalence of prediabetes in Tamil Nadu was 8.3 %, in Maharashtra it was 12.8 %, in Jharkhand, 8.1 %, and in terms of percentage, highest in Chandigarh at 14.6. Studies have shown that most people with prediabetes develop type 2 diabetes within 10 years, unless they change their lifestyle. Lifestyle changes include losing 5 to 7 percent of their body weight 10 to 14 pounds for people who weigh 200 pounds—by making changes in their diet and level of physical activity. Prediabetes in Clinical practice Targeting insulin resistance and beta cell dysfunction concluded that targeted pathophysiologic therapy based on oral glucose tolerance test-derived measures of insulin sensitivity and β -cell function can be implemented in general internal medicine and endocrine practice and is associated with marked improvement in glucose tolerance and reversion of prediabetes to normal glucose tolerance in more than 50% of patients. Using electroacupuncture had a hypoglycemic effect in obese women with calorific restriction diet using electrical stimulation of 2 Hz for 30 minutes/day for 20 days. A study concluded that the walking and various exercise protocols help to treat prediabetes by increasing the physical activity of the patients. The use of Metformin in people with prediabetes would prevent or delay the onset of frank type 2 diabetes mellitus. Metformin decreases the rate of conversion from prediabetes to diabetes. Acupuncture at Weiwaxiashu point can significantly lower the blood glucose content and inhibit release of plasma pancreatic glucagon.

Keywords: Prediabetes, Acupoints, Prevalence, Electroacupuncture, Type 2 diabetes



Abst: 17

IMPACT OF POSITIONING ON OXYGEN SATURATION IN PRETERM INFANTS

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Preterm birth is birth before 37 weeks of gestation that has not yet reached the level of fetal development generally allowing life outside the womb. Positioning describes the use of body position as a specific treatment technique that can be used with physiological aims of improving oxygen transport through its effects of improving ventilation/perfusion (V/Q) matching. We can prevent complications like respiratory distress syndrome, chronic lung disease, pneumonia by proper positioning of child. No comparison of prone lying and high side lying position and no relationship with saturation of peripheral oxygen has been done till now in both adults and neonates. This was a comparative study between prone and high side lying positions that were randomly assigned to 40 preterm infants i.e. those who were born in less than 37 weeks gestation age and were haemodynamically stable. They were made to lie in each position in neonatal nursery under constant supervision for 3 regular hours in same day. Saturation of peripheral oxygen in infant was recorded by pulse oximeter every 15 minutes during these 3 hours and monitoring was continued till it reached the baseline again. The infant was assigned in the next position once oxygen saturation reached the baseline again. Random order of positioning was used. The influence of both positions on the saturation of peripheral oxygen (SPO₂) in preterm infants was then evaluated and results formulated using paired t-test for evaluation of data. The data was collected with positioning using Pulse Oximeter as an outcome measure. It was highlighted that prone lying is better than high side lying in improving saturation of peripheral oxygen in preterm infants.

Keywords: Saturation of peripheral oxygen (SPO₂); Pulse oximeter; Respiratory distress syndrome; Preterm infants; Neonatal nursery



Abst: 18

RELATIONSHIP BETWEEN GAIT VELOCITY AND WISCONSIN GAIT SCALE (WGS) SCORE IN PATIENTS WITH STROKE

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Purpose of the study was to determine a relationship between the gait velocity and quality of gait as depicted by the score of Wisconsin Gait Scale (WGS) in patients with stroke. 21 acute stroke patients, 50-60 years (mean age = 54.5 years), both males and females were included in the study. The patient's demographic profile and detailed medical history were collected through individual interviewing and medical records. The patients were assessed for the walking velocity and their walking pattern was evaluated using Wisconsin Gait Scale (WGS). The relationship between gait velocity and Wisconsin Gait Scale was analysed using a Spearman's rank correlation coefficient. There was a significant and negative relationship between gait velocity and Wisconsin Gait Scale score ($p = 0.001$). The walking velocity is a good indicator of gait quality in stroke patients and is a good measure related to qualitative aspects of gait in stroke.

Keywords: Gait velocity, Wisconsin Gait Scale, Stroke, Gait



Abst: 19

FORMULATION OF HERBAL LOZENGES FOR THE TREATMENT OF RESPIRATORY TRACT INFECTIONS

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Lozenges are solid and small medicated candies and are intended to disintegrate slowly in the mouth. These are generally used for localized effect in the mouth and upper respiratory tract. The prepared formulation comprises of powder of herbal ingredients like Bhrami, Badam, Saunf, Elachi, Mulethi, Kadu and Mishri. These are hard boiled lozenges prepared by heating sugar syrup and after the mixing process, pulling of mass was made into the shape of the ribbon and then cut into desired length.

Keywords: Lozenges, Herbal, Candies, Respiratory tract, Bhrami, Mulethi



Abst: 20

**ANTIMICROBIAL ACTIVITY OF *SPIRULINA PLATENSIS* EXTRACT
AGAINST GRAM POSITIVE AND GRAM NEGATIVE BACTERIA- A
COMPARATIVE STUDY**

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The present study was focused to determine the antibacterial efficacy of *Spirulina platensis* extract against few Gram positive and Gram negative bacteria. Different extracts were prepared using water, methanol, ethanol and acetone. Antibacterial properties of prepared extracts were studied by well diffusion method and minimum inhibitory concentration assay. Maximum zone of inhibitions were maximally shown by extract from water followed by methanol, acetone and ethanol which corresponds to 19 mm and 15 mm against *Staphylococcus aureus*, *S. epidermidis*, *Klebsiella pneumoniae*, *P. aeruginosa* and *Escherichia coli* by well diffusion assay. Similarly, MIC values were depicted as 1600 mgml⁻¹ against *S. epidermidis* and *E. coli* against acetone extract followed by methanol extract which showed 1800 mgml⁻¹ in *K. pneumoniae* whereas water extract showed 2025 mgml⁻¹ against *S. aureus*. Our results demonstrated that incorporation of various extracts of *S. platensis* have potentials to inhibit the growth of both Gram positive and Gram negative bacteria except *P. aeruginosa*, which was not affected by water extract.

Keywords: Gram positive and Gram negative bacteria, *Spirulina platensis*, Antibacterial activity, Minimum Inhibitory Concentrations, Water extract, Natural extract



Abst: 21

PRODUCTION OF THE BIOETHANOL (RECTIFIED SPIRIT) FROM THE WASTE POTATOES BY SIMULTANEOUS SACCHARIFICATION AND FERMENTATION PROCESS

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Ethanol is one of the renewable energy sources with high potential. Various raw materials have been used as for ethanol production like baggage, orange peels, corns, potatoes etc. In this study, we used the waste potato mash for bioethanol production; however, a pre-treatment process named as liquefaction and saccharification is needed to convert starch of potato to fermentable sugar directly by using microorganisms *Aspergillus niger* and *Saccharomyces cerevisiae* instead of using expensive enzyme. So, the process of simultaneous saccharification and fermentation directly by microorganisms is being introduced. Two methods were used; one is fermentation and seconds are SSF. In order to obtain maximum fermentable sugar conversion, optimum parameters for the liquefaction and saccharification processes were optimized such as temperature, amount of potato mash, pH, agitation rate and length of fermentation. The effect of pH, inoculum size and various sources to obtain maximum ethanol from waste potato mash was under batch fermentation. In this study has given the potential for utilization of potato waste for ethanol production. In our study we have used an economic and sustainable process of simultaneous saccharification and fermentation by the three potent strains *Aspergillus oryzae*, *Saccharomyces cerevisiae*, *Aspergillus niger*. The production of the bioethanol is important in medical field also and bioethanol can be used as the rectified spirit. The rectified spirit is used largely in the medical field. 95% of the ethanol is used in the preparation of the bioethanol and only 5% of the water. A rectified spirit is highly concentrated ethanol which has been purified by means of repeated distillation, a process that is called rectification. Rectified spirits sold on the consumer market are used in mixed drinks, in the home production of liquours, for medicinal purposes, and as a household solvent. Rectified spirits are also produced by distillers for dilution and mixing with more traditional distilled beverages to produce inexpensive liquor. The ethanol is used as the antiseptic, as the antidote, disinfectant and for the production of the hand sanitizers. And this production of the bioethanol will help a lot in the medical field as this will help to develop a new technique that will help in each and every field as the bioethanol has many applications not only in the medical field in many others also.

Keyword: Fermentation, Bioethanol, Renewable energy, *Saccharomyces cerevisiae*



Abst: 22

**EVALUATION OF ANTIMICROBIAL PROPERTIES OF SILVER
NANOPARTICLES SYNTHESISED USING *PARTHENIUM
HYSTEROPHORUS* LEAF EXTRACT**

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Parthenium hysterophorus is an annual herbaceous weed known for its vigorous growth and as a causative agent contact dermatitis, hay fever and diarrhea in humans and systemic toxicity in livestock. However, inspite of all the problems associated with this weed, it has been reported to have pharmacological activities. The presented work aimed at evaluating the potential of *Parthenium hysterophorus* leaf extracts for the synthesis of silver nanoparticles, thus providing a new platform to this noxious weed known. Aqueous, Ethanolic and Methanolic extracts of *P. hysterophorus* leaf extract were used as reducing/capping agent for the synthesis of silver nanoparticles. Among the three extracts, maximum synthesis was observed in case of aqueous extract and the same was used for further experiments. Synthesised nanoparticles were characterised using UV-Vis spectroscopy with maximum absorbance peak at 420nm. SEM and TEM analysis revealed that the particles were spherical and cylindrical in shape with average particle size ranging from 25-35nm. The chemical group association and elemental composition of nanoparticles was analysed using FTIR and SEM-EDX. Green synthesized silver nanoparticles were also evaluated for antimicrobial activities against Gram positive and Gram negative bacteria. Silver nanoparticles exhibited maximum zone of inhibition against *Enterobacter aerogenes* (30mm) while least activity was seen against *Staphylococcus aureus* and *Bacillus subtilis*.

Keywords: Aqueous Leaf Extract, *Enterobacter aerogenes*, FTIR, *Parthenium hysterophorus*, SEM-EDX.



Abst: 23

**WASTE POTATO STARCH BASED SIMULTANEOUS
SACCHARIFICATION AND FERMENTATION (SSF) PROCESS FOR
PRODUCTION OF RECTIFIED SPIRIT, AN USEFUL COMPONENT FOR
BIO-MEDICAL APPLICATIONS**

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The production of bio-ethanol is important in bio-medical field and it can be used as the rectified spirit. Ethanol with 95% purity is used in the preparation of rectified spirit. It is highly purified by means of repeated distillation, a process that is called rectification. Rectified spirits which are sold on the consumer market are used in mixed drinks, in home production of liquours, for medicinal purposes, and as a household solvent. Ethanol, the sole component of rectified spirit is one of the renewable energy sources with high potential. Various raw materials have been investigated till date for ethanol production in the direction to reduce overall production cost. In this study, waste potato mash was selected as a raw material in order to achieve high ethanol yield, concentration and productivity. The production process consists of microbial liquefaction and saccharification of potato starch to monosaccharide by microorganisms like *Aspergillus niger* instead of using expensive enzyme and finally fermentative production of alcohol by *Saccharomyces cerevisiae*. The adopted process so called simultaneous saccharification and fermentation is highly modified and novel method over this existing method as those two types of microorganisms are merged in a single vessel and in a single stage in order to reduce to total production time and to enhance ethanol productivity. This microorganism based process is highly advantageous than expensive enzymatic process or non-environment friendly acid based processes. In order to obtain maximum fermentable sugar conversion, optimum parameters for the liquefaction and saccharification processes were optimized such as temperature, amount of potato mash, pH, agitation rate, and length of fermentation. Finally rectified spirit in terms of its purity was achieved by repetitive distillation process.

Keywords: Microorganism, Ethanol, Temperature, Potato and Sugar



Abst: 24

**THE MICROALGA *SPIRULINA PLATENSIS* EXHIBITS
HYPOGLYCEMIC AND HYPOLIPIDEMIC PROPERTIES IN ALLOXAN
INDUCED DIABETIC MICE**

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The study was undertaken to evaluate the efficacy of supplementation of suspension of *Spirulina platensis* at a fixed dose of 15 mg kg⁻¹ bw per day for three weeks on general physiology, fasting blood glucose level, oral glucose tolerance test, liver glycogen and lipid profile in alloxan induced diabetic mice. It has been found that administration of *S. platensis* to diabetic mice brought down the values significantly ($p < 0.05$) utmost to the normal at 21st day but insignificant changes in normal mice. Based on these results, it has been validated that the *S. platensis* maintains general physiological status, glucose metabolism and lipid profile against alloxan induced diabetes mellitus.

Keywords: *Spirulina platensis*, Fasting blood glucose, Lipid profile, Diabetes mellitus, Liver glycogen.



Abst: 25

EFFECT OF MECHANICAL AND MANUAL TRACTION IN PATIENTS WITH OSTEOARTHRITIS KNEE

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The purpose of this study was to find out and compare the efficacy of the Mechanical and Manual Traction in reducing pain, stiffness and improving physical functions and knee flexion range of motion in patients with grade 3 (Kellgren and Lawrence Scale) osteoarthritis knee. 60 subjects' males and females, 40-70 years of age, were assigned to 3 groups i.e. group A (Mechanical Traction group), group B (Manual Traction group) and group C (Control group). Subjects were given treatment for 4 weeks with the aim of reducing pain, stiffness and improving physical functions and knee flexion range of motion. The intervention was given to the subjects 5 days a week for 4 weeks. Pain scores, WOMAC Score and range of motion were recorded at the beginning of treatment session and after the 4 weeks intervention. Paired t-test results indicated that all groups demonstrated a statistically significant difference in improvement of pain, stiffness, knee flexion range of motion and physical functions. ANOVA results indicated there was significant difference seen in relation of pain, stiffness, knee flexion range of motion and physical functions. This study concluded that both the treatment techniques are effective in patients with OA knee in reducing pain, stiffness and improving physical functions but mechanical traction shows superior effect than the manual traction in all variables.

Keywords: Mechanical knee traction, Manual Knee Traction, Conventional Physiotherapy



Abst: 26

IMPROVED TECHNIQUE OF TISSUE PROCESSING FOR HISTOPATHOLOGY ANALYSIS

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The main aim of the tissue processing is to remove the water contents from the tissue and replace it with a solid medium, so that, it can be cut into thin section for microscopic examination after staining. However, this causes a little change in tissue morphology, but they should be at minimal. The stages of tissue processing include, dehydration, clearing, infiltration/impregnation and finally embedding in solid media, and the latter provides a support to tissue during section cutting. The purpose of the study is to reduce the processing time so that tissue remains in the chemical as shortest as possible time and reduce the changes to the tissue architecture also. In the present study, animal tissue was fixed in 10% formalin. About 40-80 samples of animal tissue has been processed and the timing of processing has been reduced to near about 5 hours using acetone, chloroform and paraffin wax as dehydrating, clearing and embedding agents. The classical method of tissue processing takes about 12 hours of processing using alcohol, xylene and paraffin wax. After processing we were able to cut the very good sections and more easily as compare to classical method. The sections are stained with Haematoxylin and Eosin stain. However, the study still needs to be carried out on the human tissue and some improvements to be made to make it more useful and we are working on it.

Keywords: Tissue processing, Dehydration, Clearing, Infiltration, Haematoxylin and eosin stain



Abst: 27

MULTIDRUG-RESISTANT (MDR) PSEUDOMONAS AERUGINOSA AND ACINETOBACTER IN BURN UNIT PATIENTS

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Pseudomonas aeruginosa and *Acinetobacter* recently gained interest as a cause of serious wound infection particularly in burn patients. Despite considerable advancements in burn wound care and infection control practices, infection remains the leading cause of death. The most frequently recovered organism depends on the patient's normal flora and duration of hospitalization. *Pseudomonas aeruginosa* and *Acinetobacter* species isolated from the burn patients in Christian Medical College & Hospital, Ludhiana were investigated on the basis of biochemical tests and their antimicrobial susceptibility pattern. Isolates varied in their susceptibility to various e.g. 60% of *Pseudomonas* isolates were susceptible to Amikacin, 39% to Imipenem, 100% to Polymyxin B and 96 % to Colistin. Out of total *Acinetobacter* isolates, 57% were susceptible to Chloramphenicol, 55% Piperacilin/tazobactam, 38% Meropenem, 38% Imepenem to *Acinetobacter*. The prevalence of *Pseudomonas aeruginosa* and *Acinetobacter* gained interest during last few decades due to its resistances to all antimicrobial agents.

Keywords: *Pseudomonas aeruginosa*, *Acinetobacter*, Multidrug-resistant



Abst: 28

**SLEEP DEPRIVATION AND POSTURAL INSTABILITY AMONG
MIDDLE AGED ADULTS IN PREDIABETES AND TYPE-II DIABETES
MELLITUS – ANALYTICAL STUDY**

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The Purpose of the study determine the sleep deprivation and postural instability in Pre-diabetes, determine the sleep deprivation and postural instability in Type-II diabetes mellitus and correlate sleep deprivation and postural instability among Pre-diabetes and Type-II diabetes mellitus. So this present study determines the effect of sleep deprivation on postural instability in diabetes mellitus. Total numbers of participants are 30 of middle aged, which were divided in to 3 groups according to the blood sugar levels as group-A prediabetes (10), group-B type-ii diabetes (10) and group-C normal (10). Selection criteria for the patient are Inclusion criteria age between 35 to 55 years, both male and female were included, diabetes mellitus early stage between 1 to 10 years, subjects not participating in any previous exercise program and sleep deprivation. Exclusion criteria diabetic neuropathy symptoms, neurological impairments with central nervous system and peripheral nervous system, cognitive/perceptual impairments, any systemic diseases, any musculoskeletal disorders and gestational diabetes mellitus. The methodology used for the study was observational study and the method used for the data collection are using a sleep deprivation questionnaire and blood glucose levels by Accu-Check active glucometer and postural instability by Win Track Medicaptureurs. The quantitative results of all the outcome measures showed there is a significant correlation between the sleep deprivation and postural instability in relation to blood sugar level. The result showed that there is a significant correlation between sleep deprivation and postural instability among middle aged Pre-diabetes, Type-II Diabetes and normal subjects. The level of significance was set at $P < 0.05$. The changes in the group presented clear evidence that the sleep deprivation significantly affects postural stability. This study shows that antero-posterior and lateral deviation clearly differed under sleep deprivation compared to the normal group.

Keywords: Blood glucose levels, sleep deprivation and postural instability



Abst: 29

EFFECT OF ACU-TENS ON HYPOTHYROIDISM

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Thyroid disorders can range from slightly enlarged thyroid gland that needs no treatment to life threatening thyroid cancer. The most common thyroid problems involve the abnormal production of thyroid hormones. Hypothyroidism is a common endocrine disorder involving a deficiency in thyroid hormone function. The prevalence of hypothyroidism increases with age, and the disorder is nearly ten times more common in females than males. Hypothyroidism is particularly common in areas of iodine deficiency. Individuals who have thyroid peroxide antibodies and those who have thyroid stimulating hormone (TSH) values that are in upper normal range are at increased risk for developing hypothyroidism. An electrotherapeutic study has been tried on selected 40 subjects through convenient sampling and divided into two groups of 20 each in experimental and placebo-control group after fulfilling inclusion and exclusion criteria and ethics. The result of this study shows significant difference between the pre and post reading of all three variables that is TSH, T₃, T₄ from day 1 to day 15 ($p < .05$) in experimental group, whereas no significant difference was found in placebo-control group in all the three variables ($p > .05$). During this study, reduced TSH level and increased the T₃ and T₄ level in patients with hypothyroidism (experimental group). TSH level reduced much greater in value than that of increase in level of T₃ and T₄ level and TSH reduction is more in younger people than that of adult. The reason might be active metabolism in younger people but overall the results as effective to treat hypothyroidism.

Keywords: Thyroid disorders, Hypothyroidism, Thyroid stimulating hormone



Abst: 30

EFFECT OF ACU-TENS ON SNORING

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Snoring is loud upper airways breathing without apnoea or hypoventilation, caused by vibrations of the pharyngeal tissues. It's the hoarse or harsh sound that occurs when breathing is partially obstructed in some way during sleeping. It is a typical inspiratory sound, even though a small expiratory component can be heard or recorded (especially in OSAS patients) with different spectral features. An electrotherapeutic study has been tried on selected 60 subjects through convenient sampling and divided into two groups of 30 each in placebo-control (group A) and experimental group (group B) after fulfilling inclusion and exclusion criteria and ethics. Pre test readings of snoring by using Epworth Sleepiness Scale, Berlin Questionnaire of patients in both the groups were taken before the intervention. Post test readings (after 15 days intervention) showed significant difference in Experimental group. The mean age of group A (42.53 + 11.00) and group B (38.60 + 12.38) which comes out to be non significant. The mean BMI of group A (27.11 + 3.68) and group B (25.55 + 2.95) which shows no significant difference in the BMI. All the subjects treated in group B showed significant changes (1.43 + 1.14) than group A (5.73 + 1.66) in Berlin Questionnaire test. In case of Epworth Sleepiness Scale, there were significant changes within the group A (7.57 + 2.42) and (3.13 + 1.25) and no changes was seen in Group B. The t- value for Epworth Sleepiness Scale score was 0.056 ($p > 0.05$) and 9.992 ($p < 0.05$) and Berlin Questionnaire was 0.304 ($p > 0.05$) and 11.71 ($p < 0.05$). The t- value for Berlin Questionnaire was 0.304 ($p > 0.05$) and 11.71 ($p < 0.05$). The results for the variables were significant which showed that there were significant changes between the groups. To conclude, this study suggests that ACU-TENS was better mode of treatment for reducing snoring.

Keywords: OSAS patients, Epworth Sleepiness Scale, Berlin Questionnaire, ACU-TENS, Apnoea



Abst: 31

EFFECT OF ACU-TENS ON HYPERTENSION AND HYPERLIPIDEMIA

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High serum cholesterol and high blood pressure are two major, modifiable risk factors for developing cardiovascular disease (CVD) events. Interventions that lower levels of these two risk factors can substantially reduce the incidence of and mortality from CVD. An electrotherapeutic study has been tried on selected 40 subjects through convenient sampling and divided into two groups of 20 each in experimental group (group A with ACU-TENS and diet) and placebo-control (group B with diet) after fulfilling inclusion and exclusion criteria and ethics. The mean age of participants in group A and B was 51.2 and 49.9 respectively. The result showed a significant difference between Cholesterol ($p=.000$), HDL ($p=.000$), LDL ($P=.000$) Triglycerides ($p=.000$) systolic BP ($p=.000$) Diastolic BP ($p=.000$) between Group A and B. When within the Group analysis was done in Group A, a significant difference was found in Cholesterol ($p=.000$), LDL ($p=.000$), Triglycerides ($.000$), Systolic BP ($.000$), Diastolic BP ($.000$) expect HDL($p=.802$) which was non-significant. Although HDL shows non-significant results in group A but comparing mean HDL pre and post its shows a clinical significance. When within the Group analysis was done in Group B, a significant difference was found in Cholesterol ($p=.000$), LDL ($p=.000$), Triglycerides ($p=.000$) and Systolic BP ($p=.000$), expect HDL ($p=.163$) and Diastolic BP($.106$) which was non-significant. It has been concluded that the ACU-TENS is effective in hypertension and hyperlipidemia.

Keywords: Cardiovascular disease, ACU-TENS, Placebo-control, Triglycerides, Systolic BP, Diastolic BP



Abst: 32

EFFECT OF ACU-TENS ON OSTEOPOROSIS

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Osteoporosis is a skeletal disease of reduced bone mineral density that compromising bones strength resulting in an increased risk of fracture which is an important cause of mortality and morbidity. An electrotherapeutic study has been tried on selected 112 subjects (after screening 140 subjects) through convenient sampling and divided into two groups of 56 each in experimental group (group A with ACU-TENS and diet) and placebo-control (group B with diet) after fulfilling inclusion and exclusion criteria and ethics. In its result the mean difference of T score within group A (pre and post intervention) was 0.10 and that of group B (pre and post intervention) was 0.01. The value by paired t test of group A was 5.069 and group B was 0.685. In comparison result was significant for group A ($p=0.0000$). The comparison of mean, SD & mean difference along with baseline pre reading and post reading comparison of T score by using unpaired 't' test. The "t" value for post reading comparison was 2.342 and post reading results in group A were significant ($p=0.0209$) than group B. It has been found that application of Therapeutic ACU-TENS is effective in reduction of T-score in osteoporosis.

Keywords: Osteoporosis, ACU-TENS, Post intervention, Bone strength



Abst: 33

EFFECT OF ACU-IFT ON TYPE 2 DIABETES MELLITUS: A BLOOD GLUCOSE ANALYSIS

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Diabetes Mellitus is increasing tremendously in Indian society day by day. Type 2 diabetes mellitus is a complex endocrine and metabolic disorder. The interaction between several genetic and environmental factors results in a heterogeneous and progressive disorder with variable degrees of insulin resistance and pancreatic beta cell dysfunction. An electrotherapeutic study has been tried on selected 50 subjects through convenient sampling and divided into two groups of 25 each in experimental and control group after fulfilling inclusion and exclusion criteria and ethics. The results of this study shows that there exists a significant difference from day 1 to day 7 when pre test of day 1 is compared with post test of day 7 ($p < 0.05$) within the Experimental Group. The Mean \pm SD of pre test of day 1 is 313.88 ± 54.84 where at day 7 is 245.64 ± 59.19 which signifies that there is significant change from day 1 to day 7 within the Experimental Group. Whereas in Control Group the value of Mean \pm SD at day 1 is 319.36 ± 69.75 and day 7 is 306.80 ± 68.16 which shows that there is not much significant difference in Control Group from day 1 to day 7. Hence, it has been claimed that significant effect of ACU-IFT in reducing blood glucose level in patients with type 2 diabetes mellitus.

Keyword: Diabetes, Glucose, Metabolic disease, Insulin, ACU-IFT



Abst: 34

ANTIOXIDATIVE AND PROOXIDATIVE EFFECTS OF GREEN TEA EXTRACT EXHIBITS HEPATOPROTECTIVE AND HEPATOTOXICITY

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Green tea is widely consuming beverage after water globally. It possesses more than 4000 bioactive components. One third of its component is polyphenols which contains mainly catechins exhibiting strong antioxidative effects. Catechins scavenge the free radicals, reduce NO-synthase, and inhibit lipid peroxidations which are reported to be the possible mechanisms for hepatoprotection of green tea extract (GTE) against oxidative stress. GTE ameliorate oxidative damage of liver by modulation of biomarkers such as ALT, AST, ALP, GSH, glutathione peroxidase, catalase, superoxide dismutase, lipid hydroperoxides (LOOH), 4-HNE (4-hydroxynonenal), thiobarbituric acid reactive substance (TBARS) and MDA (malondialdehyde). Naturally derived or alternative antioxidants may be effective, but does not always guarantee safety when not taken in recommended dose. 100 ml of green tea contains 50-100 mg of polyphenols, which may show adverse effects including hepatic failure when taken frequently for prolonged period. Higher doses of GTE reported to elevate ALT, AST, ALP, GGT, bilirubin whereas reduce serum total protein, total antioxidants, and alter the histo-architecture of hepatic tissue which finally lead to necrosis. The possible mechanism may be due to disturbances of carbohydrate metabolism attributed mitochondrial toxicity and formation of ROS by catechins of GTE. Thus, GTE in recommended doses may act as antioxidants and protect hepatic cells against oxidative stress, but in higher doses may act as prooxidants which cause hepatotoxicity.

Keywords: Green Tea, Antioxidant, Prooxidant, Catechins, Polyphenols, Hepatoprotective, Hepatotoxicity.



Abst: 35

A STUDY ON SENSITIVITY AND SPECIFICITY OF SERUM ADENOSINE DEAMINASE IN THE DIAGNOSIS OF TUBERCULOSIS

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Tuberculosis is still one of the major health problems in the world with more than 9 million new cases and 2 million deaths each year. Rapid and accurate diagnosis of symptomatic patients is a cornerstone of diagnosis in normal strategies. The golden standard method for diagnosis of tuberculosis is *Mycobacterium* culture which is time consuming and cumbersome. There are other rapid and easy techniques used in diagnosis of tuberculosis with low sensitivity and specificity. Serum adenosine deaminase is one of the biochemical markers that can be used as tool for the diagnosis of tuberculosis. Its level is increased in this disease and can indicate the presence of tuberculosis. In this study, the Serum ADA Level of 75 healthy control and 75 Cases of tuberculosis patients with positive sputum smear for acid fast bacilli (AFB) with clinical symptoms were determined for pulmonary tuberculosis and radiological impression for extra pulmonary tuberculosis. The selection of cases and control were based on the inclusion and exclusion criteria. Samples were collected in the Out Patient Department of National Tuberculosis Centre (NTC) after simple questionnaires. The blood samples were collected and processing was carried out in the Biochemistry Laboratory of Dhulikhel Hospital. The estimation of serum ADA was done by modified Guisti and Galanti method and the ADA levels of study groups were statistically determined by using Statistical Analysis software SPSS v16.0. There was significant difference in mean rank of the level of serum ADA among the TB cases to control. The P-TB had the highest mean rank (116.52) followed by EP-TB (99.48) and control had significantly less mean rank (40.16) with p value of 0.001. At the cut-off point of 25 U/L, the sensitivity, specificity, positive predictive value and negative predictive value were 90.7%, 100%, 90.66% and 100% respectively. There was no significant difference in mean rank among sex wise distribution with p=0.037 and sputum grading wise distribution with p=0.142.

Keywords: Adenosine deaminase; Pulmonary tuberculosis; Acid fast bacilli; *Mycobacterium*



Abst: 36

PREVALENCE OF MALARIA BY PERIPHERAL BLOOD SMEAR IN FAR WESTERN REGION OF NEPAL

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Malaria is a major cause of death in tropical and sub-tropical countries, killing each year over 1 million people globally. Kailali and Kanchanpur district of far western region is endemic for malaria and poses a diagnostic challenge in the medical community. Evaluation of recent epidemiological status of malaria situation in the two endemic districts of far western region of Nepal with high transmission of malaria and to assess the knowledge, attitudes and practices of the people in prevention and treatment for malaria infection. A cross-sectional study was carried out with volunteer participation of suspected malaria patients seeking care at the Malakheta Hospital, Seti Zone, a health care centers located in malaria endemic districts in Nepal. Conventional Giemsa stained thick and thin blood smears prepared from finger prick blood were examined following standard protocols. A questionnaire was designed to obtain patient age, sex, ethnic group, disease symptoms, and prevention and control measures. SPSS was used for statistical analysis of the data. Out of total 800 samples examined for the malarial infections from which 449 (66.1%) and 351 (43.9%) were male and female respectively. Out of which there was a prevalence of 88 (11%) malaria infections in the study in which *P. vivax* (85) and *P. falciparum* (2) and combination of both (1). In sex wise distribution male showed the higher prevalence in compared to the female that of 13.8 times higher with P value of 0.002 which is highly significant. There was no significant relation in the ethnic group while age group 20-29 showed the highest infection as compared to other age group. In spite of different efforts by the government this place still remains to be endemic for malaria. To improve the malaria morbidity in the districts, health education of the most marginalized people through audio visual methods may be beneficial. A time interval diagnosis is needed for the improvement of the situation in these regions.

Keywords: Malaria; epidemiology, Diagnosis, Thick and thin blood smears; Endemic; prevalence



Abst: 37

HEART- FATTY ACID BINDING PROTEIN AS EMERGING BIOMARKER FOR DIAGNOSIS OF MYOCARDIAL INFRACTION

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Acute myocardial infarction (MI) is one of the major cause of death and disability. 15 millions of patients per year in the world are admitted to the emergency department with chest pain. The rapid diagnosis of acute MI is important for the initiation of effective evidence based medical treatment. Biochemicals testing of cardiac biomarkers are playing a vital role in the diagnosis of MI. In current practice Troponin T, isoenzymes (CKMB), transaminase (SGOT) etc. are in use as a cardiac marker for the diagnosis of myocardial infarction. However all of these are not specific for the diagnosis of myocardial infarction in early hours. ECG is also used for the diagnosis of MI but, it is not specific as it has low specificity and sensitivity (50%). Heart type fatty acid binding protein (H-fabp) can be used for the diagnosis of acute MI within the first 2 hrs after onset of chest pain. H-fabp are excessively present in the myocytes as the fatty acid transporter. Fatty acid binding proteins are low molecular weight molecule of approximately 15 kDa as compared to the Troponin T (22kDa). Fatty acid binding proteins are also present in other organ of the body like lungs, liver, kidney as a fatty acid transporter (long chain fatty acid). Heart type fatty acid binding protein (H-fabp) is present in the cytoplasm of myocytes, playing principle role in fatty acid metabolism. H-fabp come into circulation within the 1st hour of MI. H-fabp shows the high sensitivity (97%) and specificity (95%) toward the diagnosis of MI as compared to Troponin T, which shows less specificity and sensitivity within 1-2 hrs. Recent research also suggests that human H-fabp appear in the plasma 1-2 hrs after cardiac damage or MI. H-fabp can thus be used as a sensitive biomarker as it shows higher specificity and sensitivity in early hours for the diagnosis of acute MI.

Keywords: Myocardial infarction, Heart type fatty acid binding protein, Troponin T, isoenzyme



Abst: 38

A NOVEL HIGH SPEED ARCHITECTURE OF LIFTING BASED 2D-DWT FOR MEDICAL IMAGING

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Medical imaging or bioimaging is a phenomenon of producing visual structure or digital image of living body for clinical analysis. Many image modalities including digital radiology, computerized tomography (CT), magnetic resonance imaging (MRI), and ultrasound imaging (US)) are used for this purpose. These modalities generate a large amount of image data, which need to be compressed for decreasing the storage space and achieving efficiency in communication. Discrete wavelet transform is the most efficient techniques for image compression and provide both lossy and lossless compression with greater accuracy. JPEG 2000 which uses DWT compression technique is the state of the art of DICOM standard for storage and transmission of medical images. In this paper MRI medical image modality has been compressed using Discrete Wavelet Transform. CDF lifting wavelet architecture has been implemented to perform 2D-DWT on image. To increase the efficiency of process the architecture has been modularized while parallel processing and pipelining has been used to increase the sampling speed. Overall area has been reduced by eliminating line buffer and frame buffer from the design. By proper scheduling of the intermediate results this architecture avoids the need of transposition buffer. Hence the proposed design require only $O(N)$ size of RAM and some on chip registers for storing data. Moreover the architecture has a very small latency and provide high throughput, which makes compression process more efficient. The architecture has been coded in Verilog Hardware descriptive language, Synthesized and Simulated in Xilinx 14.1 then implemented on Artex-7 board.

Keywords: Discrete wavelet transforms, compression, Lifting scheme, Parallel processing latency



Abst: 39

**EFFECT OF PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION
TECHNIQUE AND MUSCLE ENERGY TECHNIQUE ON PAIN, RANGE
OF MOTION AND DISABILITY IN PATIENTS WITH NON SPECIFIC
CHRONIC LOW BACK PAIN**

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Improving functional performance in patients with chronic low back pain is of primary importance. The purpose of this study was to examine the effect of proprioceptive neuromuscular facilitation technique (PNF) and muscle energy technique (MET) on pain, range of motion and disability, in patients with chronic non specific low back pain. 30 subjects both males and females 18-30 years of age, who had complains of Low Back Pain were randomly assigned to 2 groups: PNF group A and MET group B. Subjects were given treatment for 4 weeks with the aim of improving pain, range of motion and disability. Pain, lumbar flexion and extension and disability were measured before training and at the end of 4 weeks i.e. after training. Disability and back pain intensity were measured with the Modified Oswestry Disability Index and NPRS, while lumbar flexion and extension was measured using schober method. Paired t-test results indicated that both groups demonstrated a statically non- significant difference in improvement of pain, range of motion and disability. However unpaired t-test results indicated there was a statically significant improvement within group. The findings of the present study are that PNF exercises and MET significantly increase the lumbar spinal range of motion and reduce pain and disability in people with non specific Chronic Low Back Pain. However there was no significant difference in effects of PNF and MET.

Keywords: Non Specific Chronic Low Back Pain, Muscle Energy Technique, Proprioceptive Neuromuscular Facilitation technique.



Abst: 40

EFFECTIVENESS OF DRY NEEDLING FOR MYOFASCIAL PAIN SYNDROME AMONG ATHLETES

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Myofascial pain syndrome (MPS) is a most common form of pain that arises from muscles or related fascia. It is usually associated with myofascial trigger points which are palpable, highly localized, hyperirritable spots and taut band of skeletal muscle fibers. Dry needling (DN) is newer technique used by physical therapists around the world to treat the pain hence we did this study to treat the MPS in athletic population. In this case series we examined the efficacy of DN on 28 adult athletes with a history of MPS in reducing the severity of pain. Baseline assessment of pain was done using NPRS (0-10) and wide spread pressure pain threshold using an algometer. Two sessions of DN were given and post treatment changes in pain were assessed after one week. Data was analyzed using paired t-test. There were consistent reduction in pain as determined by a pain scale score and pressure pain threshold scores after DN treatments. There were found to be statistically significant improvements in some measures of pain intensity and pressure point threshold after only one treatment. Dry needling is an effective and safe technique for the treatment of MPS.

Keywords: Myofascial pain, Dry needling, algometer, Dry needling, Hyperirritable spots



Abst: 41

EFFECT OF FOOT MASSAGE IN PREMENSTRUAL SYNDROME

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Premenstrual syndrome (PMS) is a set of physical, cognitive, affective and behavioural symptoms that occur cyclically during the luteal phase of the menstrual cycle and resolve quickly at or within days of the onset of menstruation. PMS is considered as one of the most common gynaecological diseases and is also one of the most common disorders at fertility ages. Massage is non-drug methods of prevention and treatment of premenstrual syndrome. It is an old, mild and non-invasive method that, there are not enough researches about its effect on symptoms of premenstrual syndrome. The objective is to identify the effect of foot massage on symptoms of premenstrual syndrome. The study setting is Lovely Professional University, Punjab. Experimental study with pre and post-test design was applied here. The clinical trial of two groups in which 30 women with premenstrual syndrome were included in 2 groups of intervention and control group (foot massage , music and counseling). The intensity of premenstrual syndrome was recorded by a PMS questionnaire. The treatment was given to both the groups for 4 weeks for 30 minutes per day for three sessions in a week. Data analysis done by IBM SPSS 20 Version used for analysis. Paired “t” test and independent “t” test used for the analysis of the effect within the group. The result shows that Foot massage significantly led to decrease of mental symptoms and physical symptoms in comparison with control group. The PMS questionnaire shows that the symptoms are improved drastically in experimental group. We are concluding that Foot massage helps to alleviate the symptoms of Premenstrual syndrome. It needs to be insisted in the treatment of females who are stressed due to Premenstrual syndrome. Thus effective in improvement of physical and mental symptoms following premenstrual syndrome improves the quality of life.

Keywords: Premenstrual syndrome, foot massage, Quality of life



Abst: 42

EFFECT OF PHYSIOTHERAPY IN GAIT DYSFUNCTION OF PARKINSON DISEASE: A CASE REPORT

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The Parkinson is a neurodegenerative disorder of basal ganglia which lead to the detrimental effect in breathing capacity, gait and functional activities also. It is categorized by Hoehn and Yahr staging. This is broadly comes under the movement disorder. The physiotherapy treatment plays a major role in improving the health status of the Parkinson disease. This is devastating as the hospital stay increases due to the neglect behavior. We observed many cases that were not treated well lead to long standing disability. The study is Case study with Pre and Post Test Design. It was conducted in Out Patient Department, Lovely Professional University. Participants were assessed with Hoehn and Yahr Staging, Unified Parkinson disease rating scale, cadence component of gait. Wintrack analyzer is used to assess the gait components. The assessment is taken before and consequently for every week for 4 week. The treatment includes breathing exercises, stretching, and vestibular rehabilitation. The data has been analyzed by IBM SPSS 20 Version used for analysis and paired “t” test used for the analyzing the effect within the group. The results shown positive results after getting 60 min of session per day for 6 days per week and continue for 4 weeks of application in all the outcome measures. We are concluding that Physiotherapy treatment play a key role in reducing the movement deficit of Parkinson and helps to alleviate the gait deficiency in Parkinson. This makes patient independent in activities of daily living.

Keywords: Hoehn and Yahr staging, Wintrack, Vestibular rehabilitation, Cadence.



Abst: 43

GEL CORED LIPOSOMES CONTAINING ANTI- TUBERCULAR DRUGS: AN *IN-VITRO*, *IN-VIVO* STUDY

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Tuberculosis is common and deadly infectious disease caused by *Mycobacterium tuberculosis* and HIV- positive persons infected with *M. tuberculosis* have 50% chance of developing reactivation of TB at some time in their life. So many current dosage regimens have proven to show disadvantages like multiple drug resistance and poor targeting of drug at the target site i.e. Lungs. Colloidal carriers may result in improved therapeutics, therefore liposomal formulations were chosen as carrier to deliver ATDs at target site, to improved patient compliance and to reduce systemic toxicity. Isoniazid (INH) and Levofloxacin (LVFX) were taken as model drug candidates. Conventional and Gel cored Liposomes were prepared by Thin film hydration method. Gel cored liposomes were prepared by using polymer (Polyacrylic acid) during hydration of film. Both formulations were characterized and optimized on the basis of MVS, Zeta potential, Entrapment Efficiency and *In-vitro* release profile. Optimized conventional formulations (A12 INH, A21 LVFX) having % EE ($35.5 \pm 0.3\%$, $52.95 \pm 1.26\%$) and Gel cored liposomes (A27 INH, A31 LVFX) having % EE ($37.03 \pm 0.3\%$, 55.45 ± 0.19) and optimized Polymer concentration (0.3% w/v). Storage stability study shows gel cored liposomes were more stable than conventional. Conventional Liposomes were lyophilized by using trehalose as cryoprotectant for formation of Dry powder Inhaler. *In-vivo* tissue distribution and pharmacokinetic studies results concluded that optimized Gel cored Liposomal suspension showed greater accumulation in the lungs for prolonged period of time when compared with conventional lyophilized liposomes and Plain drug.

Keywords: Conventional Liposomes, Gel cored Liposomes, Polyacrylic acid, Dry powder inhaler, Multiple drug resistance



Abst: 44

PREVALENCE OF MDR BACTERIA AMONG ICU PATIENTS AND THEIR ANTIBIOGRAM IN A TERTIARY CARE HOSPITAL OF PUNJAB

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Purpose of this retrospective study was to analyze the prevalence of MDR pathogens and their antibiogram in ICU patients in Patel Hospital, Punjab. A total 196 sample were collected, cultivated and identified by culture characteristics, Gram's staining and biochemical tests. Antibiotic susceptibility profile of each isolate was evaluated by Kirby-Bauer disc diffusion method. Out of 196 samples, 97 samples were found to be positive for different organisms (49%). Out of 97 positive samples, 28 samples were found to be having MDR pathogens (28.86%), which include *Staphylococcus aureus* (10%), *Acinetobacter* spp. (28%), *Escherichia coli* (14%), *Klebsiella* spp. (32%), *Enterococcus* spp. (0%), *Pseudomonas* spp. (14%), *Morganella* spp. (0%), *Citrobacter* spp. (3.57%), and *Streptococcus* spp. On analyzing the antibiogram of these MDR organisms, it is found that most of them were resistant to carbapenems, beta-lactams and other groups of antibiotics. The medical procedures, medical devices, and the ICU environment play a great role in spread of MDR pathogen. Thus, a strict infection control guideline should be followed to make the ICU environment free of MDR pathogens. Occurrence of multidrug resistance in ICU isolates against clinically used antibiotics present an upsetting situation and thus demands its active controlling through rational and combinatorial antibiotic regimens.

Keywords: Multi drug resistant bacteria; Intensive care unit; Antibiogram



Abst: 45

A RETROSPROSPECTIVE STUDY OF THE DEMOGRAPHIC PROFILE AND CLINICAL OUTCOMES OF PATIENTS UNDERGOING AN AUTOLOGOUS STEM CELL TRANSPLANT (ASCT) AT A TERTIARY CARE CENTRE IN NORTH INDIA

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Autologous transplant provides an option to effectively utilize ablative chemotherapy without the morbidity and mortality of graft-versus-host disease that complicates allogeneic transplant. It is the standard of care therapy in various disorders. We undertook an analysis to determine the profile of patients and efficacy of ASCT at our centre. Evaluate treatment and clinical outcome of the patients treated at our center. All patients who underwent an autologous transplant from 2009-2015 were included. The details were retrospectively followed up and outcomes noted. Descriptive statistics were calculated for all variables. The probability of survival was estimated with product-limit method of Kaplan Meier for overall survival. There were 17 patients who underwent an ASCT. The median age at transplant was 50 (14-64). 6 (35%) patients who underwent transplant were from another state. The mean times to neutrophil and platelet engraftment were 11.7 and 12.5 days respectively. The one year overall survival was 55.3% \pm 23.8% at a median follow up of 34 months in those who underwent the transplant. Multiple Myeloma was the most common indication for an ASCT. The median survival at one year after ASCT is comparable to published literature. One third of the patients were from another state; possibly reflecting the lack of widespread availability of transplant services

Keywords: Demographics, ASCT, India.



Abst: 46

DIFFERENCE IN DISEASE NATURE AND TREATMENT DECISION IN PATIENTS WITH ACUTE MYELOID LEUKEMIA (AML): A TERTIARY CARE, SINGLE CENTRE RETROSPECTIVE ANALYSIS FROM NORTH INDIA

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Data from developed economies report AML as a disease of the elderly. However, it has been observed that there are differences and challenges in treating AML in India. We undertook a retrospective analysis to identify the demographic profile of patients diagnosed with AML at our tertiary care centre in North India. Study the demographic profile of patients admitted with AML at our centre. Explore differences between those who decline or proceed with treatment. Only newly diagnosed patients admitted in the department of clinical haematology were evaluated for the study. Data (2008-2014) was retrospectively gathered from the discharge cards and patient folders. Descriptive statistics were calculated for all variables. Differences in means were tested using a Mann-Whitney-U test or t-test as appropriate. 39 patients were newly diagnosed with AML. Of these 17(43.5%) proceeded with treatment. The mean age at diagnosis was 45.9 (± 19.6). Comparing those who did proceed with treatment and those that did not; there was no significant difference noted except that, older patients were more likely to continue with treatment $P=0.012$. Our analysis, though limited by the sample size and single centre experience, showed Majority (56.5%) of patients decline further treatment after diagnosis. Younger {38.9 (± 15.2)} patients are less likely to proceed with therapy. This possibly reflects societal ignorance about the nature of the disease and advocacy programs should be actively pursued.

Keywords: AML, India, Demography



Abst: 47

EFFECT OF METHANOLIC FRACTION OF THE SEEDS OF *NIGELLA SATIVA* LINN ON RADIATION INDUCED GI DAMAGE IN RATS

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Radiation therapy is the most widely used treatment for cancer, but it causes the side effect due to intestinal damage. We examined radio-protective effect of methanolic extract of *Nigella sativa* (NSM) in albino rats after total-body irradiation (TBI). In the first experiment rats were treated with TBI at 4, 6, 10 Gy and mortality was recorded at 14th day and 6 Gy irradiated rats selected as experimental control group. After that assess the effect of NSM (200 mg/100g bwt/day) on 6 Gy irradiated rats. NSM was orally given to rats 2hrs before radiation and continued for 7th consecutive days. The changes in intestinal histology and antioxidant status were evaluated 7th days after sacrifice. NSM significantly enhance the antioxidant enzymes as compared to 6 Gy irradiated group. Evaluation of histological changes showed that NSM ameliorated intestinal morphological changes such as decreased villus shortening, mucosal erosion, and congestion and collagen deposition after 6 Gy irradiation in ileum. Moreover, the NSM treated group enhanced the survival time than the irradiated control group. Thus NSM had a protective effect on intestinal damage induced by radiation and decrease antioxidant enzymes. These results suggest that NSM is useful food supplement for preventing radiotherapy-induced intestinal damage in cancer patients.

Keywords: Radiation, Radiotherapy, GI tract, Intestine, Total-body irradiation, Methanolic extract, 6 Gy



Abst: 48

**RELATIONSHIP OF SYMPTOMS OF CARPAL TUNNEL SYNDROME
(CTS) WITH DIAGNOSIS USING NERVE CONDUCTION STUDY**

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Purpose of the study was to investigate the relationship between average duration of symptoms of Carpal Tunnel Syndrome with diagnosis. 52 female subjects, age 35 - 55 years (mean age = 40.5 years) with Carpal Tunnel Syndrome referred for electro-physiologic evaluation to the University College of Physiotherapy, Baba Farid University of Health Sciences, Faridkot, were included in the study. The patients were surveyed with the help of questionnaire regarding the demographic data such as gender, age, nature of occupation as well as duration of symptoms etc. Following the inclusion, Motor Nerve Conduction Velocity was calculated for the median as well as ulnar nerve using MEDICAID EMG/NCV set-up bilaterally. The average duration of symptoms till diagnosis was on average 8 months and 90 % of females were from rural background. Among all females, 85.6 % were housewife, who spent majority of the time in the household related work. It can be concluded on the basis of results that average duration of symptoms of Carpal Tunnel Syndrome among rural household females is long and this may have valuable impact on the treatment.

Keywords: Carpel, Motor nerve, Demographic, MEDICAID EMG/NCV, Carpal Tunnel Syndrome



Abst: 49

PATHOPHYSIOLOGY AND PHOTOTHERAPY TREATMENT OF NEONATAL JAUNDICE

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Jaundice is mostly the life's first hurdle which a newborn faces immediately after birth and becomes the reason for his/her admission in the neonatal ward. Jaundice is characterized by hyperbilirubinemia which leads to yellowish colour of sclera, mucosa and skin. Physiological jaundice is always there due to the physiological immaturity of neonate to conjugate increased bilirubin production due to excessive RBC lysis and the bilirubin which is conjugated by liver entered into intestine along with bile. Here sterile gut if neonates have enzyme enzyme β -glucuronidase which deconjugates the conjugated bilirubin which again enter blood. Total serum bilirubin [TSB] level between 6 to 8mg/dl by the first three days is in the physiological range. However, if TSB exceed 5mg/dl on the first day, 10mg/dl on the second day and 15 to 20mg/dl on the third day of life, it is then the pathological condition and needs immediate treatment. Prolonged pathological jaundice may lead to kernicterus and neonate may suffer lifelong disability. The traditional remedies for treatment such as camels thorn, flixweed and sugar watershould not be practiced as they are having negative effects and cause psuedoconfidence in parents. Regular breastfeeding and phototherapy are safe and effective in controlling the hyperbilirubinemia. Incase of failure of phototherapy, the patient is treated by blood transfusion.

Keywords: Jaundice, Bilirubin, Serum, Hyperbilirubinemia, Phototherapy, Blood transfusion