

Joint Event on



GLOBAL PHARMA SUMMIT

&

2nd International Conference on

GASTROENTEROLOGY AND HEPATOLOGY

November 23-24, 2018 | Bangkok, Thailand

DAY 1

Scientific Tracks & Abstracts

Day 1

SESSIONS

November 23, 2018

Gastrointestinal Pharmacology | Hepatitis | Pharmacokinetics and Drug Interaction
Drug Designing | Pharmaceutical Quality by Design

Session Introduction

Session Chair

Fatma Abdelaziz Amer
Zagazig University, Egypt

- Title: Right colon adenocarcinoma misdiagnosed and treated as complicated appendicitis in adult patients: Case report**
Haidar Muad Gamil, Al Gamhoria Teaching Hospital, Yemen
- Title: Evaluation of attenuating effect of *cocos nucifera* on cold restraint stress model in rats**
Shivakumar Hugar, BLDEA's SSM College of Pharmacy and Research Centre, India
- Title: Isolation and characterisation of bioactive compounds of medicinal plants reported to having adaptogenic properties**
Shrikant Kadam, SVPM's College of Pharmacy, India
- Title: Phytochemical investigation and *in vitro* preliminary antimitotic studies on ethanolic extract (etoh) of aerial parts of *leucas diffusa.benth***
Praveen Srikumar Polu, MRM College of Pharmacy, India
- Title: Evaluation of adaptogenic activity profile of *G. Lucidum* and *P. Senega***
Pawar Vinod S, SVPM's College of Pharmacy, India
- Title: Evaluation of adaptogenic activity of *Luffa cylindrica* leaves extract**
Nanjappaiah H M, BLDEA's SSM College of Pharmacy and Research Centre, India
- Title: Pharmacokinetic determination atenolol enantiomer in rabbit plasma by reverse phase UFLC technique**
BM Gurupadayya, JSS Academy of Higher Education and Research, India

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Haidar Muad Gamil et al., Asian J Biomed Pharmaceut Sci 2018, Volume 8 | DOI: 10.4066/2249-622X-C5-014

RIGHT COLON ADENOCARCINOMA MISDIAGNOSED AND TREATED AS COMPLICATED APPENDICITIS IN ADULT PATIENTS: CASE REPORT

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¹Al Gamhoria Teaching Hospital, Yemen

²Al-Naqeeb Private Hospital, Yemen

Introduction: Acute appendicitis is the most common surgical diagnosis of right lower abdominal pain in young adult patients, that usually required emergency surgical intervention. Its diagnosis is mostly made on clinical and non-invasive diagnostic modalities background, although other rare pathologies including right colonic tumour must be concerned specially in suspicious presentation or in older patients. We reported an adult patient presented and diagnosed as a case of acute complicated appendicitis that operated laparoscopically, subsequently he underwent for life saving laparotomy, and finally diagnosed as colonic adenocarcinoma.

Cases Report: A 55 years old male diagnosed as perforated appendicitis. Laparoscopic intervention for appendectomy revealed dilated inflamed cecum with catarrhal appendix. Several days after improvement and discharged, patient came with peritonitis. Laparotomy revealed rupture cecum and proximal right colonic ring stricture. The resected hemi colonic segment histology revealed adenocarcinoma.

Discussion: The diagnosis of right colonic tumour is difficult in emergency condition because appendicitis is the dominant expected diagnosis in adult patients, the absence of colonic emergency complications (perforation and obstruction), and the inaccurate scanning study.

Conclusion: Right colonic-cecal adenocarcinoma is a rare entity, it can be presented as cecitis in adult patient, and the improper diagnosis of it may lead to incomplete surgical management and subsequent fatal complications.

Figure1 Cecal dilation which suspected cecum

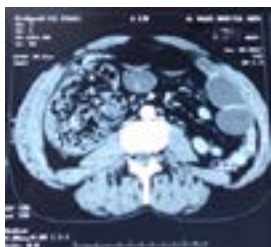


Figure 2: Laparoscopic view of the inflamed perforated appendicitis by scanning report.



Figure3 Plain erect abdominal X-ray showing air two cecal perforations.

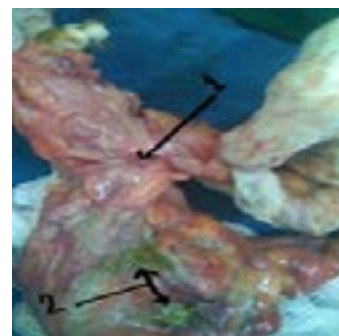


Figure 4: 1-ring stricture colonic mass. 2- under diaphragm.

BIOGRAPHY

Haidar Muad Gamil had completed the master's degree (MSc) from Aden University. He is a General and laparoscopic surgeon working in the general surgery department, and endoscopic diagnostic unit at Al Gamhoria teaching hospital. He is the head of general and laparoscopic surgery department in Al-Naqeeb hospital (Aden/Yemen). He is the Member of European Society for Trauma and Emergency surgery (ESTES), and International Society of Abdominal Compartment Syndrome (ISACS). He had participated and attended numerous local and international surgical courses and conferences and have some international publications in reputed journals.

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EVALUATION OF ATTENUATING EFFECT OF *COCOS NUCIFERA* ON COLD RESTRAINT STRESS MODEL IN RATS

**Shivakumar Hugar, Virupanagouda P Patil, Nanjappaiah H M and
Chandrashekhar V M**

BLDEA's SSM College of Pharmacy and Research Centre, India

Objective: Traditional practitioners commonly use herbal extracts and polyherbal formulation for the management of stress. Ranahamsa Rasayanaya, a polyherbal formulation which contains *Cocos nucifera* is one of the ingredients used in management of stress disorders. Hence, this research was undertaken to scientifically validate antistress effect of *Cocos nucifera* L. endocarp.

Material and Methods: The test extract was subjected for preliminary phytochemical investigation to detect the presence of type of phytoconstituents. The anti-stress effect of graded doses (125, 250 and 500 mg/kg, b/w) of ethanolic extract of *Cocos nucifera* endocarp was evaluated using cold restraint stress model in rats. Its antistress potential was investigated by estimating various parameters such as hematology, serum biochemical markers such as glucose, cholesterol, triglycerides and blood urea nitrogen (BUN). The weight of organs (Liver, spleen and adrenal glands) of experimental animals and noradrenaline and serotonin contents of brain tissue of stressed rats also recorded. *Withania somnifera* (100 mg/kg) used as reference standard.

Results and Discussion: Screening doses of test extract chosen based on the LD50 cut-off value. The results of preliminary phytochemical investigation of test extract reveal the presence of flavonoids and tannins. Ethanolic extract of *Cocos nucifera* endocarp at 250 mg and 500 mg/kg exhibited significant anti-stress property against cold restraint stress model, which was evident by significant attenuation of altered haematological, serum biochemical markers, organs weight and neurotransmitter levels of brain tissue. The result of 125 mg/kg of the test extract was found to statistically not-significant. *Withania somnifera*, reference standard drug demonstrated significant anti-stress effect. The observed significant antistress effect of plant extract could be attributed to the presence of flavonoids and tannins.

Conclusion: The findings of the present study justify the incorporation of *Cocos nucifera* in Ranahamsa Rasayanaya, a well known classical Sri Lankan Rasayana drug used in the management of stress disorders.

BIOGRAPHY

Shivakumar Hugar working as Professor and Head, Post Graduate Dept. of Pharmacology, BLDEA's SSM College of Pharmacy & Research Centre, Vijayapur - 586103, Karnataka, India. He obtained PhD degree from Kuvempu University, Shankaragatta, Shivamogga in the year 2007. He is having 21 years of experience in teaching and research. He guided 45 M Pharm and 3 PhD students and 01 student of Pharmacology specialization is pursuing PhD under his supervision. Published 56 research papers in national and international journals. Presented 09 oral and 55 posters in national and international conferences and got best research paper award for 3 oral presentations. Attended International conference organized by Master Skill University, Malaysia in the year 2011. Shivakumar Hugar was Board of Studies (BOS) member in Pharmacy (UG) 2009 - 2011, Rajiv Gandhi University of Health Sciences (RGUHS), Bangalore. Currently he is member of BOS in Pharmacy (PG) and also faculty member of Pharmacy, RGUHS, Bangalore. He has received research grant from RGUHS, Bangalore. He is also an editorial board member and reviewer for the few reputed journals. Shivakumar Hugar has been received Shikshak Shri Award from chief justice & first vice president of Nepal. This event was organized by Indo-Nepal Antarrashtriya Samrasta Manch on account of teacher's day on 5th September at Krishna Menon Bhavan, New Delhi. He was member of International Organizing Committee of 12th International congress of Ethnopharmacology, Jadavpur University, Kolkata, India, held on February 17-19, 2012. He was the poster evaluator for P4 conference jointly organized by KLE University & Manipal, held at Belagavi, Karnataka, India. He is life member of APTI, KSPC, American Botanical Council and ACP. He is an examiner for various universities and evaluated PhD thesis of different universities.

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ISOLATION AND CHARACTERISATION OF BIOACTIVE COMPOUNDS OF MEDICINAL PLANTS REPORTED TO HAVING ADAPTOGENIC PROPERTIES

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Plants biosynthesize numerous secondary metabolites possessing diverse chemical structures. Search of bioactive compound responsible to elicit adaptogenic effect has been herculean task.

In the present study also, we have isolated the quercetin and gallic acid from methanolic extract of *G. lucidum* and gallic acid from methanolic extract of *P. Senega*. The preliminary TLC studies of MEGL and MEPS demonstrated presence of phenolic compounds. Therefore, for isolation of these phenolic compounds, methanol extract was fractionated by using Toluene: ethyl Acetate: Formic acid (v/v/v) (7:5:1) and characterized by spectral (UV, IR, ¹HNMR and Mass) analysis.

Fractions were separated by using column chromatographic separation. The obtained spectral data was compared with literature and showed the complete agreement of quercetin and gallic acid. The presence of these bioactive components could be responsible for the observed potential adaptogenic activity.

BIOGRAPHY

Shrikant Kadam working as a Assistant Professor in the Department of Pharmaceutical Chemistry, SVPM's College of Pharmacy, Malegaon (Bk), Baramati, affiliated to Savitribai Phule Pune university, Pune, India. He has received M.Pharm degree from Shivaji University Kolhapur. He is having 11 years of teaching experience in Biochemistry and Pharmaceutical Analysis. His area of research lies in the field of Pharmaceutics, Biotechnology and Analysis. He is a life member of Association of Pharmaceutical Teachers of India (APTI) and Registered Pharmacist of Maharashtra State Pharmacy council (MSPC), India.

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PHYTOCHEMICAL INVESTIGATION AND IN VITRO PRELIMINARY ANTIMITOTIC STUDIES ON ETHANOLIC EXTRACT (ETOH) OF AERIAL PARTS OF *LEUCAS DIFFUSA*. BENTH

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Lucas Diffusa commonly known as Thumbai (Tamil) decumbent herb is widely distributed in Asian countries and some places in India. The objective of present study was to investigate the presence of various phytochemical constituents and preliminary antimutagenic screening for ethanolic extract. The crude EtOH extract of aerial plant of *Leucas diffusa* were taken under phytochemical investigation revealed the presence of steroids, triterpenoids, flavanoids and carbohydrates. The extract was fractionated and isolated from n-Hexane, Ethylacetate, and Chloroform partitionates by using column chromatography and preparative TLC techniques. The IR spectra of the EtOH extract indicated the presence of OH, C=O, C-H, C-O-C and NH. Cytotoxic properties of plant extracts being developed for cancer treatment are usually evaluated by a variety of *in vivo* and *in vitro* tests carried out in animal or plant based models. In the present study we have evaluated the possibility of using plant model the germinating Mung beans (*Vigna radiata*), for rapid and inexpensive screening of extract exhibiting cytotoxic properties. The EtOH extract showed strong inhibitory effect on seed germination at 100µg/mL, 250µg/mL and 500µg/mL.

Our study shows that germinating *V. radiata* beans could be used as a convenient model for the preliminary screening of drugs exhibiting cytotoxic properties.

BIOGRAPHY

Praveen Srikumar Polu Working as Professor in the Department of Pharmaceutical Analysis in MRM College of Pharmacy, Hyderabad. He has done the PhD Doctor of Philosophy in 2010 Awarded from Andhra University, Visakhapatnam, in Faculty of Pharmaceutical Sciences. Professional Diploma In Recent Clinical Trials from Pharma Help line Society, (PDRCT) Jaipur. Attended as subject evaluator for poster presentations for National seminar organized by MAM College of Pharmacy, Guntur on 8-9th Nov, 2015. Attended as subject evaluator for oral presentations in National seminar organized by ASN College of Pharmacy, Tenali, Guntur on 18th Jun, 2016. Attended as subject evaluator in Medicinal chemistry oral presentations for Pharmaphoenix-2K13 organized by Victoria College of Pharmacy, Nallapadu, Guntur, in association with IPA (Education Division, Mumbai) on 2nd April 2013. Attended as subject evaluator in Pharmaceutical Chemistry for poster presentations for National seminar organized by Acharya Nagarjuna University, Guntur on 9-10th Nov, 2012. Attended as subject evaluator for poster presentations for National seminar organized by MAM College of Pharmacy, Guntur on 8-9th Nov, 2015. Attended as subject evaluator for oral presentations in National seminar organized by ASN College of Pharmacy, Tenali, Guntur on 18th Jun, 2016. Attended as subject evaluator in Medicinal chemistry oral presentations for Pharmaphoenix-2K13 organized by Victoria College of Pharmacy, Nallapadu, Guntur, in association with IPA (Education Division, Mumbai) on 2nd April 2013. Attended as subject evaluator in Pharmaceutical Chemistry for poster presentations for National seminar organized by Acharya Nagarjuna University, Guntur on 9-10th Nov, 2012. Presented a poster presentation entitled "Synthesis and Characterization of new schiff bases containing Pyridine moiety and their derivatives as anti-oxidant agents" in UGC sponsored National seminar on The promise of Green Chemistry, organized by the Dept. of Chemistry, Andhra Layola College, Vijayawada on Nov 16-17th 2011 and Secure 1st prize.

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EVALUATION OF ADAPTOGENIC ACTIVITY PROFILE OF *G. LUCIDUM* AND *P. SENEGA*

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The present investigation has been undertaken to evaluate adaptogenic and related properties of methanolic extracts of the *G. lucidum* and *P. senega* using various experimental animal models.

The graded doses of MEGL and MEPS were evaluated for adaptogenic activity using acute restraint stress (ARS) and chronic cold restraint stress (CCRS) in adult albino rats of 150-200g. *Withania somnifera* was used as reference standard.

In acute and chronic stress study, significant reversal of altered biochemical markers, organs weight and hematological parameters seen in treated groups. Oxidative injury in rat brain exposed to stress was significantly attenuated by the treatment of both test extracts at graded doses. Histological studies evident that pretreatment of MEGL and MEPS prevented congestion, ulceration, leucocytic infiltration, edema and necrosis in stomach. Test extracts significantly exhibited stress busting potential by reversing the altered brain levels of NA, DA and 5-HT. Also MEGL and MEPS at graded doses significantly reduced the number of writhes in chemical induced stress in mice.

It is concluded that *Ganoderma lucidum* and *Polygala senega* are strong adaptogens of natural origin, mitigating physical, chemical, acute and chronic stress induced alterations. These agents can be of therapeutic value for various stress related disorders viz. gastric ulcer, hyperglycemia, oxidation, depression etc. The observed adaptogenic effect might be due to prevention of desensitization of peripheral and central components of HPA axis and also due antioxidant activity.

BIOGRAPHY

Pawar Vinod S working as an Associate Professor in the Department of Pharmacology, SVPM's College of Pharmacy, Malegaon (Bk), Baramati, affiliated to Savitribai Phule Pune university, Pune, India. He has received PhD degree from Jawaharlal Nehru Technological University (JNTU), Hyderabad, India in the field of Pharmacology in 2014. He is having 13 years of teaching experience in Biotechnology, Pharmacology and Human Anatomy & Physiology. His area of research lies in the field of pre-clinical pharmacology, endocrinal pharmacology and ethnopharmacology. Dr Pawar Vinod S had worked on research projects funded by SPPU. He has several research publications/presentations to date in national and international journals/conferences of high profile. He had received "Gold Medal" Award for best research paper on "Adaptogenic (Antistress) Activity of Methanolic Extract of *Ganoderma lucidum* Against Physical and Hypoxic Stress in Mice" International conference on Advancement in Health Sciences, organized by Masterskill University College of Health Sciences, Port Dickson, Malaysia. He is appointed as nominee of CECSEA, Ministry of Environment, Forest & Climate Change, Govt of India. He is a life member of Association of Pharmaceutical Teachers of India (APTI) and Registered Pharmacist of Maharashtra State Pharmacy council (MSPC), India.

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EVALUATION OF ADAPTOGENIC ACTIVITY OF *LUFFA CYLINDRICA* LEAVES EXTRACT

Nanjappaiah H M, Shivaprakasha S M, Virupanagouda P Patil and Shivakumar Hugar

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Objective: To investigate adaptogenic activity of ethanolic extract of *Luffa cylindrica* leaves (EELCL).

Methods: In the present study adaptogenic activity was screened against anoxia tolerance, swimming endurance and cold restraint stress models. In anoxia tolerance test, the mean time of appearing first convulsion in mice was taken as end point to determine the time of anoxia. In swimming endurance test, the mean time of swimming performance was recorded. The end point taken was when the animals started drowning and remain at the bottom of swimming tank for 10 sec. Estimation of biochemical parameters such as serum glucose, cholesterol, triglycerides and BUN and also weight of organs (Liver, adrenal glands, spleen and testes) were measured in cold restraint stress model.

Results:

Effect of EELCL on anoxia stress tolerance time in mice:

In the anoxic stress tolerance test, the time taken for the mice to exhibit clonic convulsions was considered as the end point. The graded doses (50, 100, 200 mg/kg) of the test extract demonstrated dose and duration dependent significant delay in clonic convulsions on 7th, 14th and 21st day compared to control group received vehicle only. The lower dose of the test extract (50 mg/kg) did prolong the clonic convulsions at the end of 1st and 2nd week, but the results found statistically not significant. Antistress effect of the higher dose (200 mg/kg) of the test extract was found closer to that of the standard drug, *Withania somnifera*.

Effect of EELCL on swimming endurance test in mice:

There was dose dependent significant increase in swimming performance time monitored in mice pretreated with EELCL at graded doses (50, 100 and 200 mg/kg) for seven days. The percentage increase in swimming performance time was found to be 55 to 89. However, the effect of test extract on swimming performance time was found to be less potent than the reference standard drug, *Withania somnifera*.

Effect of EELCL on biochemical parameters in cold restraint stress:

Cold restraint stress adversely affected the serum concentration of various biochemical parameters. The induction of cold restraint stress significantly elevated the serum cholesterol, triglycerides, BUN and glucose levels in

stress control rats compared to normal control group. Animals pretreated for ten days with test extract at different dose levels (50, 100, 200 mg/kg) showed significant and dose dependent fall in all the biochemical parameters, as compared to the stress control animals.

Effect of EELCL on organs weight in cold restraint stress:

Cold stress significantly increased the weight of liver, adrenal glands and decreased the testes and spleen weight. Ten days pretreatment with graded doses of EELCL significantly and dose dependently ameliorated the cold stress induced altered organs weight.

Conclusion: In conclusion, the findings from the present study suggest that 70% hydro alcoholic leaf extract of *Luffa cylindrica* demonstrated increased resistance against different aversive stimuli in a nonspecific manner thus the test extract could possess adaptogenic – anti-stress property.

BIOGRAPHY

Nanjappaiah H M is working as Associate Professor in the Department of Pharmacology, BLDEA's SSM College of Pharmacy and Research Centre, Vijayapur, Karnataka, India. He obtained Doctor of Philosophy (PhD) in Pharmacology under Pharmacy Faculty by Rajiv Gandhi University of Health sciences, Bangalore, Karnataka, India in the year Jan 2018. He received a research grant as Seed Money to Young Scientists for Research (SMYSR) from Vision Group on Science and Technology, Govt. of Karnataka, Bangalore in the year 2012-13. He published 20 research articles in various national and international journals and presented 30 posters 05 oral presentations in various conferences. Presently guiding 02 M Pharm Pharmacology students. He is member of Board Of Studies in Pharmacy (Doctor of Pharmacy), Rajiv Gandhi University of Health Sciences, Bangalore. He is life member of Association of Pharmaceutical Teachers of India and Karnataka State Pharmacy Council.

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PHARMACOKINETIC DETERMINATION ATENOLOL ENANTIOMER IN RABBIT PLASMA BY REVERSE PHASE UFLC TECHNIQUE

BM Gurupadayya and Charan Raju C

JSS Academy of Higher Education and Research, India

The present work describes the pharmacokinetic profile of (R)- and (S)-Atenolol (ATL) enantiomer in rabbits using rapid and selective liquid chromatography with liquid-liquid extraction (LLE) method. The ATL enantiomers were extracted from plasma by means of LLE using and were analyzed on a Lux cellulose i5 segment (150×4.6 mm, 5μ) column with ultraviolet detection at 225 nm. Atenolol enantiomers indicated great determination with a retention time (t_R) of 2.7 min and 3.10 min individually. The lower limit of quantification of the ATL enantiomers in plasma was 2 μg/ml. The validated method was successfully applied to chiral pharmacokinetic studies of oral administration of racemic ATL to rabbits. (S)-ATL showed almost similar AUC, T_{max}, and C_{max} and same half-life compared (R)-ATL, indicating similar bioavailability of the both isomer.

BIOGRAPHY

BM Gurupadayya working as the professor in the department of Pharmaceutical chemistry at JSS College of Pharmacy, JSS Academy of Higher Education & Research, Mysuru, India. The current area of his interest lies in the field of bioanalytical method developments, chiral drug analysis and drug and herbal drug interactions. He has authored and co-authored over a hundred research papers on pharmaceutical analysis and pharmaceutical chemistry. He was awarded Dr PD Sethi Annual award for best research paper on application of TLC/HPTLC. I have received several research grants from AICTE, UGC, VGST and DST funding agencies. He has guided more than 30 students in their master's program and 7 PhD degrees.

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DAY 2

Scientific Tracks & Abstracts

Day 2

SESSIONS

November 24, 2018

Gastroenterology | Liver diseases | Pharmacokinetics and Drug Interaction

Session Introduction

Session Chair

S M Paul Khurana
Amity Institute of
Biotechnology, India

Title: Prevalence of osteopenia, osteoporosis and hypovitaminosis D in patient of cirrhosis of liver and their correlation with severity

Mukesh Prasad Sah, KIST Medical College and Teaching Hospital, Nepal

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PREVALENCE OF OSTEOPENIA, OSTEOPOROSIS AND HYPOVITAMINOSIS D IN PATIENT OF CIRRHOSIS OF LIVER AND THEIR CORRELATION WITH SEVERITY

Mukesh Prasad Sah

KIST Medical College and Teaching Hospital, Nepal

Background: Hepatic osteodystrophy is a frequent late complication in chronic liver diseases in which patients usually present with bone mineral density reduction, osteopenia, and osteoporosis and fractures. Hepatic osteodystrophy is an important extrahepatic manifestation of advanced liver disease mimicking features of classical osteoporosis with an increased risk for fractures. Cirrhotic patients present with lower levels of 25-hydroxyvitamin D and 1, 25 dihydroxy vitamin D. They also have diminished bone mineral density, most frequently in the spine.

Objective: The present study was conducted with an objective to assess osteopenia & osteoporosis and measure the concentrations of 25-hydroxy vitamin D in patients with cirrhosis of liver and their correlation with severity.

Materials and Methods: This cross-sectional analytical study was conducted in the Department of Gastroenterology, BSMMU, Bangladesh during the period of January 2016 to September 2017. 70 eligible patients more than 18-year-old, diagnosed with chronic liver disease/Cirrhosis were enrolled. They were subjected to haematological, biochemical investigations, evaluation of Vitamin D. Bone Mineral Density (BMD) was estimated by Dual Energy X-ray Absorptiometry (DEXA). Patient's samples were collected, tested and results recorded.

Results: A total of 70 patients with mean age 51.5 ± 10.1 years (M-51.4%) were included in the study. Among them 7(10%) patients had normal BMD while 63 (90%) had a low BMD. Out of these 63 patients, 10 (14.3%) were diagnosed to have osteopenia and 53(75.7%) were found to have osteoporosis. The prevalence of low BMD in patients of cirrhosis of liver were 90% among them 14.3% were osteopenia and 75.7% were osteoporosis whereas prevalence of Serum 25 (OH) D were 92.9%. In bone marrow density based on CTP scoring we found that in CTP-A, higher number of patients were in osteoporosis (37.71%) followed by osteopenia and normal. In the CTP-A, B and C higher number of patients were in osteoporosis group. The difference in prevalence of osteopenia and osteoporosis among various Child groups was not signifi-

cant statistically. Mean S. vitamin 25(OH)D were 24.9 ± 6.3 , 13.6 ± 5.2 and 10.4 ± 4.4 in Child-Pugh A, Child-Pugh B and Child-Pugh C stages respectively. Mean S. vitamin 25(OH)D was gradually decreased as the changes of stage from lower to higher. Vitamin D levels and severity of liver disease had linear correlation with low BMD.

Conclusion: Among the liver diseases patients 90% of them were with Low BMD. The prevalence of low BMD in patients of cirrhosis of liver were 90% among them 14.3% were osteopenia and 75.7% were osteoporosis whereas prevalence of Serum 25 (OH) D were 92.9%. There were no correlations with gender, severity of liver disease by CTP score and etiology of liver cirrhosis did not determine hepatic osteodystrophy. There was linear decreased in mean s. vitamin 25(OH) D as the changes of stage from lower to higher. Routine vitamin D testing and early scanning for osteoporosis in patients with liver cirrhosis will reduce the risk of morbidity and mortality.

BIOGRAPHY

Mukesh Prasad Sah is an assistant professor at KIST Medical college and teaching Hospital, Nepal. He is the member of the Nepalese Association of Surgical Gastroenterology (NASG) and Nepalese society of Gastroenterologist. He was medical officer and tutor at JMC Teaching Hospital, Nepal (2009-2011), and has completed his sMD residency (2018) in gastroenterology from Dhaka, Bangladesh. His areas of interest and research works are in metabolic liver disease and Gut microbiota.

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Note: