

**3rd National Conference on
Pre-Clinical and Clinical Researches on
Products of Biological Origin in Hospitals**

(17th April 2004)

ABSTRACTS

Pakistan Society of Pharmacognosy

3rd National Conference on
**Pre-Clinical and Clinical Researches on
Products of Biological Origin in Hospitals**

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Pakistan Society of Pharmacognosy

P R E F A C E

It is a matter of great pleasure that Pakistan Society of Pharmacognosy is playing its role in the promotion of education and health sciences with full efforts and enthusiasm. In fact this is its objective too.

This Conference is on “ Pre-Clinical and Clinical Researches on Products of Biological and Pharmaceutical Origin in Hospital”. The research presentations are mostly related to human diseases, cure and management while poster presentation/articles are either on pharmaceuticals or natural products. The previous seminars/conferences were on Herb, Medicines and Therapeutics. This change is made on this basis of the change of curricula of pharmacy education and the introduction of clinical pharmacognosy and plants toxicology in 5 years Pharm. D. program.

The sincere efforts of PSP in realizing the global development trend towards WTO, in natural drug development and expansion in competition in pharmaceutical industry are highly appreciable. PSP is not only organizing the seminars and conferences but also organizing small level free medical camps, providing university fees and school fees to deserving students, who are excellent in education but cannot afford the fees.

I believe that the presentations of this conference will assist in highlighting the achievements of the individual scientist and institution.

The efforts of the members of PSP in organizing this conference are appreciable. Being President of this society I would like to thank all my colleagues, students (M. Pharm./M. Phil./Ph. D.), friends and industrialists who helped me some way or other and financially.

I hope that this conference would be remembered as a productive event in future.

Prof. Dr. Mansoor Ahmad, *I.F.*
President,
Pakistan Society of Pharmacognosy

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NEW ACHIEVEMENTS OF PAKISTAN SOCIETY OF PHARMACOGNOSY

CREDIT:

**LAUNCHING OF TWO BOOKS AND ONE INTERNATIONAL SCIENTIFIC
JOURNAL**

CONGRATULATION:

**PSP CONGRATULATES PROF. DR. MANSOOR AHMAD ON THE
SUCCESS OF THE ACHIEVEMENT OF HIS GOAL,**

- ☆ **RANKING IN PRODUCTIVE SCIENTIST OF PAKISTAN**
- ☆ **APPROVED RESEARCH SUPERVISOR OF HIGHER EDUCATION
COMMISSION**
- ☆ **PUBLISHING OF BOOKS AND**
- ☆ **INTERNATIONAL JOURNAL**
- ☆ **BEING FIRST PHARMACOGNOSIST OF PAKISTAN WHO
OBTAINED HIS PH.D. DEGREE FROM DEPARTMENT OF
PHARMACY, ETH-ZURICH, SWITZERLAND**
- ☆ **ON DECLARATION OF TOP MOST SCIENTIST OF PHARMACY IN
PAKISTAN BY MINISTRY OF SCIENCE & TECHNOLOGY**
- ☆ **ON THE DEVELOPMENT OF MEDICINES USED IN ARTHRITIS,
ULCER, GIT PROBLEM, HYPERTENSION ETC.**

GUIDANCE:

**HE IS OUR PRESIDENT. WE ARE ACHIEVING OUR GOAL UNDER HIS
GUIDANCE DAY BY DAY. WE WISH ALL SUCCESSES IN FUTURE.**

PAKISTAN SOCIETY OF PHARMACOGNOSY

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- **GETZ PHARMA PAKISTAN LTD.**
- **ROCHE PAKISTAN (PVT.) LTD.**
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and others for their kind help in organizing this conference.

PERSONAL THANKS TO

MR. KHALID MEHMOOD
Managing Director,
Getz Pharma Pakistan Ltd.

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PROGRAMME (17th April 2004)

Inaugural Session

- 09:30 a.m. Guest to be seated
09:45 a.m. Arrival of the Chief Guest
09:50 a.m. Recitation from the Holy Quran
10:00 a.m. Welcome Address from the President (PSP)
10:15 a.m. Aims & Objectives of PSP
10:30 a.m. Launching Ceremony of Journal & Books
10:45 a.m. Chief Guest Address
11:00 a.m. Vote of Thanks
11:05 - 11:30 *REFRESHMENT*
11:00 - 11:30 **Poster Session**

Plenary Lectures Session

Chairman & Secretary: Prof. Dr. A. E. Beg and Prof. Dr. G.H. Rizwani

- 11:30 - 11:45 Cardiology: Dr. Adul Rasheed
11:45 - 12:00 Gynaecology: Dr. Shugafra Tahir
12:00 - 12:15 Paeds: Dr. Iqbal Memon
12:30 - 12:45 Radiology: Dr. Tariq Mehmood
12:45 - 13:00 Diabetes: Dr. Jamal Ara
13:00 - 13:15 Nephrology: Dr. Waqar Kazmi
13:15 - 13:30 Anaesthesiology: Dr. Ghulam Murtaza
13:30 - 13:45 Gynaecology: Dr. Sarwat Rehman

(Brief Comments, Questions and Answers)

14.00 - 14.30 *LUNCH*

Chairman & Secretary: Prof. Dr. Z. Iqbal and Prof. Dr. A.B. Rehman

- 14:30 - 14:45 Pharmaceutical: Dr. Mohammad Aslam
14:45 - 15:00 Microbiology: Prof. Dr. Aqeel Ahmad
15:00 - 15:15 Toxicology: Dr. Aftab Turabi
15:15 - 15:30 Gastroenterology: Dr. Laeeq Ahmad
15:30 - 15:45 Biopharmaceutics: Prof. Dr. Tasneem Ahmad
15:45 - 16:00 Pharmacy: Prof. Dr. Zafar Iqbal
16:00 - 16:15 Histopathology: Dr. Qaiser Naqvi
16:15 - 16:30 Ministry of Health: Dr. Obaid Ali

(Brief Comments, Questions and Answers)

Concluding Session

- 16:30 - 16:45 Concluding Address
16:45 - 17:00 Comments & Recommendations
17:00 - 17:15 *REFRESHMENT*

PLENARY LECTURES

Hypertension and Cardiovascular Diseases

Abdul Rashid

Department of Cardiology, Liaquat National Hospital, Karachi

ABSTRACT

Hypertension is an important public health challenge world wide, which affect almost one billion individual world wide. It has highest prevalence and risk of complication. We are discussing ACE inhibitor role in improving the out come among patients with left ventricular dysfunction whether or not they have heart failure. The ACE in discussion is ramapril which was used in Hope 2 micro Hope studies including the patient at higher risk of cardiovascular event with or without heart failures. These studies also include the patient which had diabetes mellitus as well.

Chemical Poisoning in the Urban Populations of Karachi Reported to NPCC

Aftab Turabi and Mansoor Ahmad¹

National Poison Control Center, Ward-5, Jinnah Hospital, Karachi

¹Research Institute of Pharmaceutical Sciences, Department of Pharmacognosy, faculty of Pharmacy,
University of Karachi, Karachi

Abstract

This study was conducted in NPCC (National Poison Control Center), Jinnah Postgraduate Medical Center, Karachi from January 1999 to 2002. Chemical constituents the largest group of poisoning that is 68.12% of total poisoning admitted in NPCC. In this study each and every patient was studied according to the intox format, provided by the international program on chemical safety. The study encompass all aspects of poisoning starting from the nature and type of the toxic chemical, reason of poisoning, clinical presentation, management, out come and the medico Legal aspects. The following are the chemicals groups that come across during the study were organophosphorous, corrosives, kerosene oil, rodenticide, naphthalene, alcohol and drug over dose.

Frequency of postdural puncture headache following spinal anaesthesia for caesarean section. A comparison between 25-G and 27-G pencil point spinal needles.

Ghulam Murtaza, Akhtar Aziz Khan, Nighat Abbas and Sabahat Tariq

Department of Anaesthesiology, Liaquat National Hospital, Karachi

ABSTRACT

Spinal anaesthesia is a safe technique for operative obstetrics. The relatively high incidence of postdural puncture headache in obstetric patients is considered to be a major disadvantage of the technique. Spinal needles with a pencil point tip and those of a finer gauge are known to be associated with a lower incidence of postdural puncture headache (PDPH). This study set out to determine if the fine pencil point needles were acceptably easy to use and their effectiveness in minimizing the frequency of postdural puncture headache (PDPH) in routine clinical practice.

Study included 50 women (ASA I and II) undergoing elective and emergency caesarean section were randomly allocated to receive a subarachnoid block using either a 25G or 27G pencil point spinal needle, labeled as group A and group B respectively.

Factors determining ease of needle use, adequacy and quality of block, frequency of postdural puncture headache, backache, and neurological sequelae were assessed.

Successful intrathecal injection was achieved in all patients. Using the 27G needle, the anaesthetists failed to reach the subarachnoid space in first attempt in 5 (20%) patients, but subsequently had a successful intrathecal injection in second attempt. The failures in first attempt were attributed to excessive needle flexibility and indistinct dural click. 8% patients in Group A developed non-postdural puncture headache while in Group B, 12% patients had non-postdural puncture headache. Backache was more common in 25G group when compared with 27G group. There was no postdural puncture headache in both the groups.

We conclude that the final choice of 25G or 27G needle is a balance between the ease of use, failure rate, level and quality of block and possibility of lower frequency of postdural puncture headache with either of them.

SPASMOGENIC AND SPASMOLYTIC ACTIVITY IN *CYPERUS ROTUNDUS*

HYDER RAZA¹, MANSOOR AHMAD^{2*} and ASIF BIN REHMAN¹

- 1 Research Institute of Pharmaceutical Sciences, Department of Pharmacology, Faculty of Pharmacy, University of Karachi, Karachi-75720 Pakistan.
- 2 Research Institute of Pharmaceutical Sciences, Department of Pharmacology, Faculty of Pharmacy, University of Karachi, Karachi-75270 Pakistan.

ABSTRACT

Spasmogenic and spasmolytic activities were observed in crude extract of *Cyperus rotundus* (CR). Spasmolytic effect of CR in rabbit jejunum, in vitro, observed at the dose of 1-5mg/ml., did not exhibit any spasmogenic activity in the presence of atropine (0.1 μ M), because of the involvement of calcium channel blocked (CCB) by Verapamil. CR caused a dose dependent relaxation in the concentration of 1-5mg/ml, when administered against K⁺ induced contraction. The crude extract and its fractions (ethyl acetate, butanol, chloroform and aqueous) were subjected to spasmogenic and spasmolytic activities. Due to polarity of solvents the chemical constituents of the plant material were separated and the results of these fractions revealed the spasmogenic components were present in the aqueous, chloroform and butanol fractions whereas the spasmolytic component was separated in the ethyl acetate fraction. The potent CCB effect of the ethyl acetate fraction was confirmed when the pretreatment of tissue with CR (0.5 - 1 mg / ml) shifted Ca⁺⁺ dose response curves to the right in a dose dependent manner.

Diabetes in Recent Days

Jamal Ara

National Poison Control Center, Jinnah Postgraduate Medical Center, Karachi

NON-INVASIVE TECHNIQUES TO PROVE THE PRESENCE OR ABSENCE OF OESOPHAGEAL VARICES IN PATIENTS OF CHRONIC LIVER DISEASE (CLD)

Laeque Ahmad

Department of Gastroenterology, Liaquat National Hospital, Karachi.

ABSTRACT

A study on chronic liver disorder (CLD) was carried out with reference to GI-endoscopy where the bleeding chances of the capillaries of oesophagus are higher. Therefore non-invasive techniques was used to elaborate and prove the presence or absence of oesophageal varices. In this study the following parameters were used i.e. Clinical history, Biochemical, and Ultrasound features to obtain correlation among the symptoms, diagnosis and lab results. In all cases the endoscopy was carried out and the results confirmation was made on the above mentioned non-invasive techniques. It is hoped that this technique would be used in future for diagnosis.

CLINICAL EVALUATION OF HERBAL REMEDIES

Mansoor Ahmad

Research Institute of Pharmaceutical Sciences, Department of Pharmacognosy,
Faculty of Pharmacy, University of Karachi, Karachi-75270.

Since uncivilized time till present man is utilizing drugs of natural origin for the cure of different diseases. Some herbal drugs are very effective but most of them are toxic in nature. Its maximum utilization period was observed till 17th century. 18 - 20th century was dominated by allopathic medicine but recent trend of utilization of herbal remedies is also leading towards toxicities and side effects, therefore, critical clinical evaluation of herbal remedies are necessary. The question arises which kind of parameters should be considered and what type of protocol be used in this case?

Semen and Hormonal Analysis of Patients having Azoospermia and Oligozoospermia

**Mubashir A. Shaikh¹, Muhammad Shoaib Khan¹, Aftab Turabi¹,
K.A Shakoor¹, Irshad Ali² and Musa Kaleem Balooch²**

¹ Department of Clinical Pathology, and Department of Medicine, Jinnah Postgraduate Medical Centre Karachi, Pakistan.

² Department of Chemistry, Gomal University D. I. Khan, Pakistan.

Abstract:

The possible changes were determined in semen quality of azoospermic and oligozoospermic Pakistani infertile men, over a period of 4 years (1998 to 2002), through Semen examination, which is one of the most valuable diagnostic methods in male infertility. Retrospective analysis of semen volume, liquefaction time, pH and sperm concentration were carried out for 150 men from infertile couples in which 50 cases (33.33%) showed azoospermia (A), 50 cases (33.33%) had oligozoospermia (B), 20 cases (13.33%) were asthenozoospermic (C) and 30 cases (20%) were found to be normozoospermic (D). The linear regression analysis shows a decrease in semen volume in groups A and B, mean semen volume (ml) for the four respective studied groups being 1.5 ± 0.4 , 1.7 ± 2 , 2.5 ± 0.1 and 2.4 ± 0 . The mean liquefaction time (min) was 37.5 ± 0.7 , 28.7 ± 3.7 , 18.5 ± 0.7 and 18.6 ± 3.6 in groups A, B, C and D respectively, showing linear increase in groups A and B. pH did not vary much amongst groups and ranged from 7.0 - 8.5. Mean sperm concentration was $0.0, 6.7 \pm 1.7$, 45.3 ± 8.8 and 86.8 ± 7.5 million/ml in groups A, B, C and D. The hormonal profile showed normal or low levels of testosterone while FSH and LH levels indicated inverse/negative correlation to sperm concentration, whereas no significant relationship between serum prolactin and semen density was detectable between different groups.

Pharmacokinetics differences of tab Mefenamic acid (MA) 500 mg (One pill) and 250 mg (two pill) with and without food

Obaid Ali¹, Roohi Obaid¹, Noor Kamil², Zafar Saeed Saify², & Syed Waseemuddin Ahmed²

¹Ministry of Health, Govt. of Pakistan ²Faculty of Pharmacy, University of Karachi.

ABSTRACT

Administration of two tab instead of one double strength tab is more often ordered by the physician, pharmacist and even selected by the patient in case of over the counter drugs. In order to determine the ultimate quality of any formulated dosage form and rationalize the therapeutic plan as well as to individualize the prescription, in vivo measurement of drug is the modern and specialized expertise of the clinical / research area of pharmacy practice., which provides effectiveness and assures the safety of drugs. All pharmacological, therapeutic or toxic responses are subject to reaching of drug at the site of action through connective tissue. Other than physico-chemical properties of drug, there are numerous factors from manufacturing process to biochemical behaviour of the individual which resist in the absorption, distribution, metabolism and elimination of drugs in the biological system.

Tab MATest II (250 mg) & Test I (500 mg) conventional formulations manufactured by local industries were investigated for bioavailability followed by pharmacokinetic studies on adult, male, healthy, human local population. A sensitive, specific and validated method was developed for the estimation of MA in blood. HPLC was performed on a reversed phase C₁₈ column (flow rate 1.0 ml/min, UV= 280 nm) with 10 mM buffer of KH₂PO₄ (Adjusted pH 2.9 with Phosphoric Acid) and Acetonitrile (70 : 30) where as extraction of the drug from the plasma was carried out by deproteinization of plasma according to classical method described by Roohi Obaid et al 2002. Oral administration of MA Tablet Test I (single tab of 500 mg) and Test II (two pills of 250mg) with and without food to 12 healthy human volunteers was conducted. Peak level (T_{max}) of MA tablet 500 mg (single tab) and 250 mg (two pills) of was observed at about 105 and 240 minutes without and with food respectively. Two pills of MA; Test II showed significantly increase the AUC and C_{max} value in both cases either drug is administered with food or without food.

Use of Bagunides (Metformin) in Gestational Diabetes

Sarwat Rahman, Atiq-ur-Rehman and Muhammad Obaid-ur-Rahman

Department of Gynaecology, Abbasi Shaheed Hospital, Nazimabad, Karachi

Abstract

Gestational diabetes is the most common medical disorder of pregnancy and the incidences of type 2 diabetes is increasing. Women having type 2 diabetes, on oral hypoglycemic agents are usually converted to insulin therapy during pregnancy. Women having impaired glucose tolerance are at first managed by dietary manipulation and if still un-responsive, they are placed on insulin. In this study bagunides (metformin) are used for glycemic control instead of insulin. Successful results were obtained after study. It can be safety said that after dietary manipulation, bagunides can be used as second line therapy for control of blood sugar levels in pregnancy.

To See Frequency of Endometrial Cancers among other Gynecological Malignancies: Analysis of Risk Factors, Staging of Disease and Management of Diagnosed Cases

Shugufta Tahir and Khusro-Sultana

Department of Gynaecology and Obstetric, Liaquat National Hospital, Karachi

ABSTRACT

This is a prospective longitudinal study on frequency of endometrial cancer. All those patients with suspicion of malignancy at first presentation by history and examination were further investigated with special tests. Finally after confirmed diagnosis referred from oncologist or admitted cases in surgical department also passed through same procedure of staging laparotomy. The extent of disease analyzed after exploring pelvic organs, gut, omentum, liver and lymph nodes for the presence of metastatic deposits. For post operative radio or chemotherapy patient referred to oncologist.

There were 25% endometrial cancers among other gynaecological cancers. 77% cases were detected in late stage 3 & 4; their five year survival is not good.

A Study of Tuberculous osteomyelitis in Karachi

¹Syed Iqbal Alam, ²Khursheed Ali Khan, ³Ali Muhammad Ansari and ⁴Aqeel Ahmad

¹Department of Microbiology, Federal Urdu University, Gulshan Campus, Karachi,

²Department of Pharmaceutical Sciences, Baquai Medical University, Karachi,

³Ex-Head Department of Orthopedics, Dow Medical College,, Karachi, and

⁴Department of Microbiology, University of Karachi, Karachi.

ABSTRACT

A study was conducted on 25 suspected cases of tuberculous osteomyelitis. *Mycobacterium tuberculosis* was isolated from 4 cases and *M. bovis*, and atypical Mycobacteria from one case each. In 76% cases culture could not be isolated from patients. Other parameters like patients history, blood picture, radiography were considered diagnostic and patient responded to anti-tuberculous drug. No significant resistance was noted in the isolates against rifampin and isonicotinic acid hydrazine (INH).

SENSITIVITY OF FINE NEEDLE ASPIRATION CYTOLOGY IN CERVICAL LYMPH NODES IN NASOPHARYNGEAL CARCINOMA

**Syed Qaiser Husain Naqvi , Syed Iqbal Husain, Abdul Lateef Ansari,
Azam Husain Yousfani**

Department of Pathology and Department of ENT, Peoples Medical College Nawabshah

ABSTRACT

To see the sensitivity of fine needle aspiration cytology (FNAC) in cervical lymph nodes in patients of nasopharyngeal carcinoma (NPC). Prospective study was carried at Departments of Pathology and ENT, Peoples Medical College Nawabshah during January 2002 to December 2003.

32 patients having cervical lymphadenopathy were divided in two groups A and B. Group A includes 23 patients which were undiagnosed cases of NPC, out of these 19 patients have ENT symptoms and 04 patients having only cervical lymphadenopathy without any ENT symptom. Group B includes 09 post irradiated patients of NPC having detectable cervical lymphadenopathy. Fine needle aspiration (FNA) was performed with 22 gauge needle attached with 10 ml syringe and 128 smears prepared (04/patient), stained with haemotoxylen and eosin (H&E) stain. Small surgical tissue biopsies were also taken to correlate the histological findings with cytological findings of the smear of same patient.

Close resemblance was found between H & E stained cytological smears and tissue sections by observing under light microscope. The commonest pattern observed was undifferentiated carcinoma.

FNAC of cervical lymph nodes is an important tool in the diagnosis NPC, especially in those patients who have no any ENT symptom. FNAC is also helpful in the follow up of post irradiated patients.

**TO COMPARE THE EFFECTS OF AZALASTINE AND VERAPAMIL
IN THE MODIFICATION OF BRONCHO-CONSTRICTION OF
OVALBUMIN
SENSITIZED LUNG PARENCHYMAL TISSUES OF GUINEA PIGS *IN
VITRO***

**Syed Saud Hasan¹, Aftab Turabi², Jan Mohammad Sheikh², Mohammad Yousuf
Salat² and Mehar Ali²**

¹ Department of Pharmacology, Liaquat University of Medical & Health Sciences, Hyderabad.

² National Poison Control Center, Jinnah Postgraduate Medical Center, Karachi

ABSTRACT

Pharmacological prevention of antigen-antibody mediated reaction can be accomplished, at least in principle either to Prophylaxis achieved by inhibiting the release of chemical mediators and/or blocking the tissue receptors that served as target of the mediator action. The ability of azalastine and verapamil to influences antigen induced contractile responses in isolated sensitized parenchymal tissues of Guinea pig in vitro.

The Guinea pigs (n=10) were sensitized with ovalbumin and their parenchymal strips exposed to different concentration of ovalbumin to calculate the EC₅₀. Each sensitized parenchymal strips treated with either Azalastine or verapamil in an organ bath for 10 minutes and treated with EC₅₀ ovalbumin and contraction recorded by Grass Polygraph model 7B.

EC₅₀ (n=6) of parenchymal strips $0.3 \times 10^{-6} + 0.16 \times 10^{-6}$ g/ml and give a mean response of contraction (n=6) $9 + 0.44$ mm Azalastine in concentration 10^{-9} g/ml does not show any inhibitory effects but as the concentration increases to 10^{-8} g/ml marked inhibition recorded and at concentration 10^{-7} g/ml completely antagonizes the EC₅₀ induced contraction. While verapamil does not show any inhibition at concentration 10^{-10} g/ml and concentration 10^{-8} g/ml showed complete antagonism.

It is concluded that inhibition of ovalbumin-induced contraction of sensitized parenchymal tissues of Guinea pig in vitro is dose dependent and controlled better with verapamil than Azalastine.

Drugs smuggling by Body Packers: Comparative study of Ultrasound, X-ray and CT scan in detection of heroin capsules

**Tariq Mahmood, Aftab Turabi, Fayyaz Ahmed, Shakoor Memon, Sarwat
Hussain**

Department of Radiology, Jinnah Postgraduate Medical Center, Karachi

Abstract

The aim of this study was to measure the accuracy of ultrasound, plain x-ray abdomen and CT scan in detection of drug capsule in body packers.

Between January 1999 to February 2003, 389 cases of body packers (Swallowers and Stuffers) were brought to JPMC by different law enforcement agencies. The patients were admitted in National poison Control center of JPMC and were referred to radiology department for detection of drug capsules. Out of 389 patients only 70 were enrolled for this comparative study. All these patients were exposed to all three modalities. US were performed on Ecoccee power Color Doppler; X-rays on Trophy 500 ma unit and CT scan on spiral CT scan X-press GX. No special bowel preparations were given including purgatives because of the risk of rupture of capsule.

Out of 70 patients male to female ration were 50:20 aged between 20-40 years mostly in 3rd decade and belonged to 18 different countries. All of them had drug (heroin) packed in latex material of varying sizes measuring 3-10 cm concealed in GIT. Five females also had capsule in their vaginal canal. On sonography rounded to oval shape echogenic foci with posterior acoustic shadowing were diagnosed only in 49 patients (70%). Plain x-ray abdomen revealed round to oval or rectangular shaped foreign bodies surrounded by gas halo and were diagnosed only in 59 patients (85%). CT scan (scout film) revealed these capsules as foreign bodies in all 70 patients (100%). The average number of capsules recovered from these patients ranges between 50-110 and the amount of heroin varied from 600-1100 grams.

Radiologist should be familiar with appearance of these drug capsules on all modalities but CT scout film proved to be the quickest and best in the detection of these heroin capsules in body packers.

CARNITINE USE IS ASSOCIATED WITH DECREASED HOSPITAL UTILIZATION AMONG HEMODIALYSIS PATIENTS

**Waqar H. Kazmi, M.D., M.S.¹ ; Gregorio T. Obrador, M.D., M.P.H.^{1,2} ;
Brian J. G. Pereira, M.D.¹**

¹Division of Nephrology, New England Medical Center, Boston, MA

²Universidad Panamericana School of Medicine, Mexico City

ABSTRACT

Patients with end-stage renal disease (ESRD) experience high morbidity and cost. Hospitalizations account for 41% of the total cost of ESRD care. Carnitine deficiency is common among dialysis patients, and some studies have shown improvements in anemia, and cardiac and muscle function upon administration of L-carnitine. We hypothesized that L-carnitine may be associated with decreased hospital utilization in these patients.

The Fresenius Medical Care North America dialysis database was used for this retrospective analysis. Adult (>18 years) patients who received carnitine for at least 3 months, and had at least 3 months of pre-carnitine follow up were included in the study. Hospitalization and hospital day rates were compared before and during carnitine therapy.

The average rate of hospitalization was 2.3 and of hospital days 16 per patient-year at risk. Carnitine therapy, which was initiated for muscular (43%), cardiac (25%), anemia (3%), and other (29%) reasons, was associated with a significant reduction in the rates of hospitalization and of hospital days. Patients with cardiovascular disease, anemia, and hypoalbuminemia derived the greatest benefit from carnitine therapy. In a multivariate analysis of risk factors for hospitalization, carnitine therapy was independently associated with reduced hospitalization rates. Compared to 3 months prior to the initiation of carnitine, the adjusted relative risk for hospitalization was 11%, 11%, and 15% lower at 3, 6, and 9 months, respectively. Among patients with cardiovascular disease, the reduction in relative risk was even more significant (24%, 31%, and 34% lower at 3, 6, and 9 months, respectively). In a multivariate analysis of risk factors for hospital days, carnitine therapy was independently associated with reduced hospital days. Compared to 3 months prior to the initiation of carnitine, the adjusted relative risk for hospital days was 7%, 12%, and 18% lower at 3, 6, and 9 months, respectively. Among patients with cardiovascular disease, the reduction in relative risk was even more significant (21%, 33%, and 34% lower at 3, 6, and 9 months, respectively).

Administration of L-carnitine to chronic hemodialysis patients was associated with lower hospital utilization.

QUALITY CONTROL IN HERBAL MEDICINE

Zafar Iqbal

Department of Pharmacy, University of Peshawar, Peshawar

POSTER PRESENTATION

ANTI MICROBIAL PROPERTIES IN *FERULA FOETIDA*

HYDER RAZA¹, MANSOOR AHMAD² and NADEEM-UL-HASAN MOHANI²

- 1 Department of Pharmacology, Faculty of Pharmacy, University of Karachi, Karachi-75720 Pakistan.
- 2 Research Institute of Pharmaceutical Sciences, Department of Pharmacognosy, Faculty of Pharmacy, University of Karachi, Karachi-75270 Pakistan.

ABSTRACT

The use of *Ferula foetida* (*FF*) in traditional medicine shows that the *FF* is believed to be effective in curing bacterial and fungal infection. Therefore, *FF* was selected for the studies of the presence of anti microbial activities. Different fractions (ethyl acetate, chloroform, *n*-butanol and aqueous fractions) from gum resin of *FF* were prepared for screening the antibacterial and antifungal activities. Antimicrobial properties of ethyl acetate, chloroform, *n*-butanol and aqueous fractions of *FF* exhibited different degree of inhibition activity. In the result of this assay, some of the fractions of *FF* show antibacterial activity against gram +ve and some of them against gram –ve organisms. While some of the fractions of *FF* show anti-fungal activity too.

Ethyl acetate, chloroform and *n*-butanol fractions of *FF* show antibacterial activity against gram +ve organisms except aqueous fraction. Gram -ve organisms were found resistant to different fractions of *FF* except *Morexella catarhalis*. *Candida* species and *Aspergillus* species were found sensitive for antifungal activity of *FF*. All experiments are carried in aseptic condition and results are compared with standards. The test organisms used during experiments are *E. coli*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Morexella catarhalis*. *Candida albicans*, *Aspergillus niger* etc.

16-HYDROXYINGENOL DITERPENE ESTER FROM THE LATEX OF *EUPHORBIA CAUDUCIFOLIA*

Imam Bakhsh Baloch*, Musa Kaleem Baloch, Qazi Najam us Saqib** and Mansoor Ahmad***

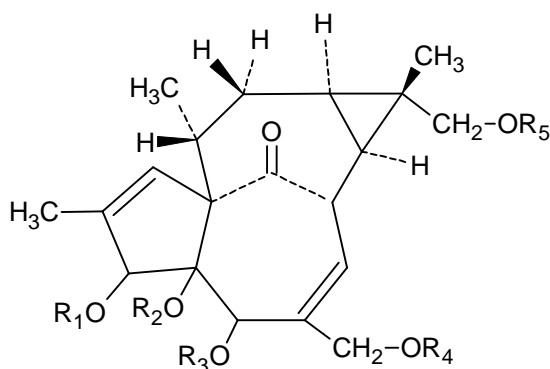
* Department of Chemistry, Gomal University, D.I.Khan

** Department of Pharmacognosy, Faculty of Pharmacy, Gomal University, D.I.Khan

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Abstract

A new ingenol ester 16-(2,4,6,8,10-pentadecapentenoyl)-20-palmitylingenol was isolated from an acetone-soluble fraction of the latex of *Euphorbia cauducifolia*. This ingenol diterpene ester was identified on the basis of their spectroscopic parameters as well as those of their hydrolytic derivatives and was tentatively identified as 16-(2,4,6,8,10-pentadecapentenoyl)-20-palmitylingenol.



1. $R_1=R_2=R_3=H$, $R_4=$ palmityl, $R_5=2,4,6,8,10$ -pentadecapentenoyl
2. $R_1=R_3=$ Acetyl, $R_2=H$, $R_4=$ palmityl, $R_5=2,4,6,8,10$ -pentadecapentenoyl
3. $R_1=R_2=R_3=R_4=H$, $R_5=2,4,6,8,10$ -pentadecapentenoyl
4. $R_1=R_2=R_3=R_4=R_5=H$.
5. $R_1=R_3=R_4=R_5=$ Acetyl, $R_2=H$.

SCIENTIFIC FINDINGS ON PHYTOMEDICINE

AEGLE MARMELLOS

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Abstract

Aegle marmelos (Rutaceae) grows wild in dry forests on hills and plains of central and southern India, Burma, Pakistan and Bangladesh. Hindus, who cultivate it largely in their gardens, and employ the leaves in enormous quantities in Sina worship, regard it as a sacred tree. The Plant is used in traditional medicine for treatment of chronic dysentery, of diabetes, after child birth treatment for mother and intermittent fever, in habitual constipation and several relevant digestive tract disorders like dyspepsia, flatulence and chronic diarrhea with or without fever. It is very use full astringent, digestive, stomachic, demulcent, laxative, diuretic and anti asthmatic. The part used for investigation/ analysis is fruit extract. The major chemical compounds present in fruit extract are mucilage, pectin, marmelosin, tannic acid, calcium, sugar, and reducing sugar. The fruit sample showed the presence of tannins, alkaloids and carbohydrate. The fluorescence analysis at 254nm and 366nm show diagnostic features in different solutions. Chemical trituration method is performed with crude powder drug and obtained specific and standard data for analysis, evaluation and comparison. Macroscopic, microscopic evaluation and thin layer chromatographic R_f values in different fractions of drug samples are carried out according to WHO recommendations. The characteristics spectra of IR and UV of different fractions and crude extract are obtained respectively. Different characteristic peaks with retention times are obtained by HPLC technique.

No significant antibacterial activity is recorded on *Staphylococcus aureus*, *Klebsella pneumonia* and less significant antibacterial activity is recorded on *Vibrio cholerae*, *Escherichia coli*, *Salmonella typhi* and *Pseudomonas aeruginosa*. No significant antifungal activity is recorded on *Candida albicans* and *Aspergellus niger*.

Raw material specification of crude extract is also prepared according to the USP/BP. *Aegle marmelos* failed in producing significant positive agglutination activity in all concentrations of the following blood groups i.e. A^+ , B^+ , AB^+ and O^+ and the blood groups. A^- (first two concentrations), B^- (first three concentrations), AB^- (first concentration) and O^- (3rd concentration) display very weak activity in 2.5mg/ml, 1.25mg/ml, 0.75mg/ml, 0.375mg/ml while O^- displays weak activity in 2.5mg/ml and 1.25mg/ml.

Results of Rapid Antimicrobial Sensitivity and Toxicity tests of the Extracts of *Swertia Chirata*, *Symplocos racemosa* and *Solanum nigrum*

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ABSTRACT

An evaluation of the antimicrobial and cytotoxic effects of the plants extracts of *Solanum nigrum* (two varieties i.e. black & red fruits), *Swertia chirata* and *Symplocos racemosa* used as a medicinal agent in the cure of different ailment. The cytotoxic tests were carried out on *Artemia Salina* (brine shrimp). The results showed that there is no positive lethality in any of the plant extract except the *Solanum nigrum* having black berries/fruits (SNBS). LD₅₀ i.e. 927.0293 µg/ml was found in upper toxic concentration, 258008.100, and lower toxic concentration 231.0767.

Antibacterial activity of the crude extracts were studied *in vitro* on gm +ve and gm – ve bacteria *E. coli*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Morexella catarhalis*, while antifungal activity was found in *Candida albicans*, *Aspergillus niger*. All extracts showed antimicrobial activity in a range of concentration between 20-700 mg/disc of dry extract. The crude extract except SNBS were devoid of any toxicity on *Artemia salina* with in the range of antimicrobial concentration, suggesting that the action is selective on microorganism.

AGGLUTINATION ACTIVITIES OF TWO SPECIES OF *ERYTHRINA*

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ABSTRACT

Erythrina variegata and *Erythrina subrosa* are two ornamental species of *Erythrina*, having medicinal properties. Both are used in the cure of different ailments such as inflammatory disorders of liver and also used as astringent, febrifuge, antiseptic for different treatments. Due to its wide range of activities both species are tested on all positive and negative blood group samples *in vitro*. The results show that *E. variegata* has medium agglutination activity with all blood groups at 1:1 dilution. Only traces of coagulation were observed at 1:2 dilution while 1:4, 1:8 and 1:16 dilutions does not show any activity. In case of *E. subrosa* traces of agglutination activity was observed at only 1:1 dilution with all blood samples and at 1:4 dilution with A⁺ and AB⁺ blood samples. By these results it is concluded that both species of *Erythrina* can safely be used in coagulation of blood disorders. The results also show that the slight more potent activity is found in *E. variegata* as compared to *E. subrosa*.

***Invitro* Inhibition of Urease and α -Chymotrypsin by Some Selected Indigenous Medicinal Plants**

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ABSTRACT

The ethanol extracts derived from selected medicinal plants of Pakistan including *Trichodesma indicum* (whole plant), *Paeonia emodi* (Aerial parts), *Aconitum leave* (aerial parts) and *Sauromatum gattatum* (rhizomes, leaves and fruits) were screened for enzyme inhibition activities against Urease (J.B. and B.P.) and α -Chymotrypsin enzymes. Only extract derived from *Paeonia emodi* (Aerial parts) showed significant activity again Jack bean and B.P. Urease by inhibiting them by 74% and 80% respectively. On the basis of the significant inhibition of the said enzyme from the two respective sources, the ethanolic extract of *Paeonia emodi* was further fractionated into n-hexane, CHCl₃, EtOAc, BuOH and H₂O fractions and were tested for urease enzyme from both the sources. Significant inhibitory activity was observed EtOAc, BuOH and H₂O fractions while the n-hexane and CHCl₃ fractions were devoid of any such activity. During α -Chymotrypsin enzyme inhibition studies by the selected medicinal plants the extracts derived from *Trichodesma indicum* (whole plant), *Paeonia emodi* (Aerial parts) and *Sauromatum gattatum* (leaves) showed inhibitory activity of the said enzyme. The fractions of derived from *Paeonia emodi* (Aerial parts) when tested for this enzyme, then the maximum activity was concentrated into EtOAc fraction.

Biological Activities of *Myrtus communis* Linn.

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Abstract

Myrtus communis Linn. (Myrtaceae) called Myrtle in English, an indigenous Mediterranean-Subcosmopolitan evergreen shrub. This plant has centuries long traditional use in remote areas of its availability in as anti-septic, antirheumatic, anti-diaherhoeal, anti-dysenteric, anti-haemorrhagic, anti-ulcer, anti-epileptic and carminative. Essential oils fatty acids and poly phenolic compounds have been reported already from this plant.

Extensive literature Survey, knowledge based on interviewing traditional healers and folk medicine users stimulated us to explore the secrets of this medicinally valued plant using bioassay-guided isolation and characterization. This poster will mainly emphasis on biological activities of various extracts of this plants against many enzymes and primary bioassays conducted so far.

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Elemental Composition of Medicinal Flowers

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Abstract

Pakistan is rich in medicinal and aromatic plants which are used as natural health care products in Eastern Medicine prevalent in Pakistan. Medicinal Flowers of Pakistan are among the loveliest creation of the nature and among them Rose is the Queen. Muslim scholars conducted research on a large number of flowers and penned down their observations in manuscripts for therapeutic purposes. Al-Biruni has mentioned a number of rose varieties in his book "Kitab al-Saydana", where *Jawari* variety is used in perfumes. According to Ibn Sina the rose flowers are used as antipyretic, cardio-tonic and good for brain. In modern therapy, the rose water is beneficial for eyes. Gul-e-Imli showed antiviral activity against Ranikhet virus. Gul-e-Madar contains Cr 0.011 ppm, Fe 0.263 ppm, Mg 0.179 ppm, Ni 0.179 ppm and Zn 0.04 ppm. A variety of flowers were collected from Karachi and investigated for their elemental composition with the help of Atomic Absorption Spectrometer. Eleven elements (Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Na, Pb, Zn) were analyzed. Here elemental composition of flowers will be discussed. Since majority of the people in our country is unaware of the wealth of Medicinal Flowers in Pakistan.

Muscle relaxing and contracting activity of *Matricaria chamomilla* (Babunah) on isolated intestinal preparation

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ABSTRACT

Matricaria chamomilla (Compositae), a much-branched aromatic herb about 30cm high, are met with in the upper Gangetic plains. It is used as aphrodisiac, diuretic, diaphoretic, carminative, headache, in gonorrhoea, ophthalmia, chest pain, scabies, removes urethral and renal gravel. Muscle relaxing and contracting activity of crude extract of MC and their fractions prepared in ethyl acetate, chloroform, butanol and aqueous medium were carried out on rabbit intestine. At 1, 10 and 25mg doses of crude extract (CE) showed spasmolytic effect, whereas 15, 20 and 25mg have more spasmogenic and less spasmolytic effects. Further studies on its fractions separately showed positive result in dose dependent manner at $P \leq 0.005$. The chloroform fraction exhibited a strong muscle relaxing effect, while other have mixed effects. The results were compared with standard drugs i.e. acetylcholine, adrenaline, atropine and histamine in 1×10^{-2} , 1×10^{-4} , 1×10^{-6} μm concentrations.

SPASMOLYTIC ACTIVITY OF *THUJA OCCIDENTALIS* (CUPRESSACEAE)

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ABSTRACT

The crude extract of aerial parts (including leaves and branches) and its fractions (ethyl acetate, chloroform, butanol and aqueous fractions) of *Thuja occidentalis* were studied on isolated rabbit intestine. Dose dependent spasmolytic effects of crude extract and ethyl acetate fractions were observed at 1mg to 25mg doses, while aqueous and butanol fractions have mixed spasmolytic and spasmogenic activities. Prominent spasmolytic effect was observed in chloroform fraction. The results of crude extract and its fractions were compared with acetylcholine and adrenaline. The contraction produced by acetylcholine was gradually decreased by chloroform fraction showing its effective use in irritable bowel syndrome (IBS) and other GIT complaints.

ROLE OF EGG ALBUMIN AS A BINDER AND DISSOLUTION RATE ENHANCER

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ABSTRACT

In present investigation, the effect of egg albumin on the rate of dissolution of analgesic tablets has been studied. Three sets of binder containing egg albumin in different ratios were used to prepare laboratory scale formulations and their dissolution behavior was studied.

The best result was achieved from formulation having all the three binders (egg albumin, gelatin and corn starch) in 1:1:1 ratio. The results were then compared to the commercially available tablets.

The results obtained show that egg albumin can be utilized as a binder in wet granulations of poorly water soluble drugs to improve their dissolution rate.

Phytochemical Studies on Indigenous Medicinal Plant

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Abstract

Plants are rich source of bioactive compounds that can be used for development of new leads for pharmaceuticals. Our earlier studies on chemical constituents of *P. tubrosa* resulted isolation of several new glycosides. In the present communication isolation of a new steroidal glycosides will be presented. Structure characterization of these compounds involve extensive spectroscopic studies and chemical transformation.

Synthesis and Antioxidant activity of some novel analogues of Nitrogen containing heterocyclic compounds

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Abstract

As a part of our program to discover novel analogues of piperidine and pyrrolidine having antioxidant activities, we synthesized some derivatives and evaluated for the above activity All the parent compounds (I-IV) were found without any activity while most of their derivatives proved to be the compounds possessing significant antioxidant activity.

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Piperidin-4-Carboxamide and its congeners as potential Analgesic agents

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Abstract

Piperidine-4-Carboxamide (hexahydroisonicotinamide) is a synthetic derivative of piperidine. Piperidine ring containing compounds are well known therapeutic agents especially as analgesic, anti-inflammatory, antidepressant, antipsychotic, antiviral, antimicrobial etc. In the similar context, a series of Piperidin-4-carboxamide with substituted phenacyl halides has been synthesized^{loc cit}. These compounds were tested for their analgesic activity in intact albino mice by tail flick latency in tail immersion method. All the compounds were administered orally in the doses of 50mg/kg body weight. Pethidine was used as the reference drug in the same dose for comparison purpose. All of the compounds showed analgesic activity of variable degree.

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