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Hygeia was the Greek goddess of health and she was worshiped in connection with Aesculapius, her father, the god of medicine and health. She is said to be again, the granddaughter of the God, Apollo. She is also the sister of Panakeia or Panacea (means all-cures) Akeso (Goddess of Healing), and Iaso (which means Remedies). Hygeia is usually depicted as a young woman, who holds a sacred snake (symbolizes resurrection), which is often combined with the rod of Asclepius to form the caduceus, or symbol of medicine. Often this snake is portrayed as drinking from a cup (symbolizing medicine), which has become known as the pharmacist's bowl. Originally, she was the guardian of physical health and later became the goddess of mental health, as well. Eventually, she became a protectress against various kinds of danger, an attribute which she shared with Aesculapius. It is from Hygeia, the word hygiene originates. Hygiene is the science of preserving health. The subject of hygiene includes all of the agencies affecting the physical and mental well being of people. In its public aspects, it is concerned with soil; climate; character; materials and arrangement of dwellings; heating and ventilation; removal of wastes; medical knowledge on the incidence and prevention of disease; and the disposal of the dead.

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Nature- (Nature)
The Pharmaceutical Journal (Pharm J)
Pharmacological Research Communications- (Pharmacol Res Commun)
Science- (Science)
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1. Evaluation of a dermatological herbal hydrogel integrated with *Ipomea pes-tigridis* for anti acne activity

S. Sandhya*, E. Vidya Sravanthi, K.R Vinod.

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Article history: Received: 10 May 2013, revised: 4 June 2013, accepted: 15 July 2013, Available online: 3 October 2013

Article ID: Hygeia.J.D.Med/103/13


For Correspondence: sanpharm@gmail.com Contact: 0091-9010055004; Fax: 0911-8682-248547, Res: C-3691-2012

**ABSTRACT**

Plan: The objective of this research investigation was to formulate and evaluate herbal hydrogel incorporated with the extract of *Ipomea pes-tigridis* intended for anti acne activity.

Methodology: The formulation was evaluated for various parameters like organoleptic characters, pH, skin irritation test by multiple compartment patch, microbial contamination, extrude ability, spread ability, drug content, diffusion studies using pig skin, accelerated stability studies, drug excipient interaction studies by FTIR, in vitro anti acne and in vivo anti inflammatory activity.

Outcome: The formulated hydrogel passed all the evaluation parameters. The hydrogel was olive green in colour and had an excellent fragrance. The diffusion studies revealed that the drug release was in controlled release form. The accelerated stability studies revealed that formulation was stable at room temperature whereas its stability reduced with increase in temperature. The FTIR studies showed that there were no drug excipient interactions. The anti acne and anti inflammatory activity showed an activity comparable to that of the standard drugs clindamycin and diclofenac, respectively. Hence it can be concluded that the formulation can be a good substitute for the existing synthetic anti acne agents.

Keywords: Carbopol 940, Propionibacterium acnes, Staphylococcus aureus, acne vulgaris.

2. Antiulcer activity of *Rheum emodi*.

Amandeep Kaur, Ramica Sharma*, Sunil Kumar

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Article history: Received: 22 December 2012, revised: 17 May 2013, accepted: 2 June 2013, Available online: 3 October 2013

Article ID: Hygeia.J.D.Med/104/13


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**ABSTRACT**

Plan: The present study was designed to investigate the antioxidant and gastroprotective potential of ethanolic extract of *Rheum emodi*.

Methodology: Antioxidant and gastroprotective activity was evaluated using reserpine and ethanol-induced ulcer models. The ethanolic extract of the Rheum emodi (EERE) was given by oral route at a dose of 50 mg/kg/p.o. and 100 mg/kg

Outcome: Pre-treatment with EERE, dose dependently reduced the ulcer index and lesions with marked attenuation in the level of oxidative stress parameters estimated by TBARS, GSH, SOD and MPO. EERE administration increases the gastric adhesion mucus content in ethanol and reserpine-induced ulcer.

Keywords: Antioxidant Activity, gastroprotective activity, ethanolic extract of Rheum emodi.
3. Evaluation of Anticonvulsant Activity of the Seed Oil Extract of *Nigella sativa*: an Experimental study.


Article history: Received: 27 May 2013, revised: 19 June 2013, accepted: 12 July 2013, Available online: 3 October 2013

ABSTRACT

Plan: The present study was carried out to evaluate anticonvulsant activity of *Nigella sativa* oil in Pentylenetetrazol (PTZ) and Maximal electroshock (MES) induced seizures in mice.

Methodology: The anticonvulsant activity of *Nigella sativa* oil at dose of 10 mg/kg/p.o. was evaluated in mice by using electroshock and PTZ seizure methods. The standard was taken as Phenytoin for electroshock method and Diazepam for PTZ method.

Outcome: In PTZ model *Nigella sativa* showed statistically significant protection in increasing the latency of convulsions (p value 0.030). While in MES model though there was decrease in the duration of tonic hind limb extension but it was not statistically significant.

Conclusions: *Nigella sativa* has shown anticonvulsant activity in PTZ model, which is suggestive of its potential benefit in petit mal type of epilepsy and hence there is need to test it in various other animal models.

Keywords: *Nigella sativa*, Maximal electroshock (MES), Pentylenetetrazol (PTZ), Seizures.


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Article history: Received: 30 July 2013, revised: 5 August 2013, accepted: 10 August 2013, Available online: 3 October 2013

ABSTRACT

Plan: The anti-diabetic and anti-hyperlipidemic effects of *D-3-O-methylchiroinositol* were investigated in male Wistar rats.

Methodology: Diabetes was induced by a single intra-peritoneal injection of 150 mg/kg of alloxan monohydrate. Five groups of rats comprising six animals in each group were used including a positive control group (glibenclamide, 2 mg/kg), treatment groups (8, 4 and 2 mg/kg of *D-3-O-methylchiroinositol* respectively) and control (untreated) group. Blood samples were obtained from the rat tails every morning before treatment.

Outcome: Alloxan-induced hyperglycaemia was significantly (p< 0.05) reduced by 59%, 48% and 41% after four days at 8, 4 and 2 mg/kg respectively compared with the untreated group (-135%) and Glibenclamide (50%). The in vitro anti-oxidant assays (DPPH and FRAP) showed that *D-3-O-methylchiroinositol* increased anti-oxidant activities with increasing concentration (10 – 400 μg/ml). *D-3-O-methylchiroinositol* therefore has anti-diabetic hypolipidemic and anti-oxidant activities.

Keywords: *D-3-O-methylchiroinositol*, diabetes, hyperglycemia, cholesterol, DPPH, FRAP.
5. Evaluation of Stability study of Selected Preservatives in Aluminium Hydroxide Gel-USP

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Article history: Received: 11 June 2013, revised: 18 July 2013, accepted: 3 August 2013. Available online: 3 October 2013


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ABSTRACT

Plan: The aim of present study is to find out new preservatives synthesized from natural sources, which may have better efficiency and stability than the existing synthetic preservatives. The derivatives of naturally occurring gallic, p-coumaric and ferulic acids were subjected to pharmaceutical product for their stability study. Their preservative efficiency was evaluated and compared with the standard parabens.

Preface: Deterioration of pharmaceutical preparations due to growth of microorganisms is a great challenge and need of preservation becomes very important. Literature reports about various problems associated with the existing synthetic preservatives such as lack of stability, development of microbial resistance (in due course of time) and several serious side effects.

Methodology: The selected amide, anilide and ester derivatives of gallic, p-coumaric and ferulic acids were subjected to stability testing in an official antacid preparation, (aluminium hydroxide gel-USP) against Staphylococcus aureus, Bacillus subtilis, Escherichia coli, Candida albicans and Aspergillus niger as representative challenging microorganisms as per ICH guidelines.

Outcome: The selected derivatives were found to be effective against all selected strains and showed preservative efficacy comparable to that of standard. The 8-hydroxy quinoline ester derivative of gallic, p-coumaric and ferulic acids showed better stability than other derivatives and may be used as an alternative to existing preservatives in the pharmaceutical preparations.

Key words: Gallic acid, p-Coumaric acid, Ferulic acid, Amides, Esters, Preservative
6. 16S rDNA Phylogenetic Analysis of Actinomycetes Isolated from Marine Environment Associated with Antimicrobial Activities
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Article history: Received: 2 July 2013, revised: 20 July 2013, accepted: 11 August 2013, Available online: 10 October 2013

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ABSTRACT

Plan: Isolate and characterize the antimicrobial actinomycetes from sediments of salt pan region of Vedharanyam, located in the Nagapattinam District, Tamil Nadu, India.

Methodology: The salt pan soil samples were collected. The Physico- chemical parameters of soil sample were analyzed. Totally 16 actinomycete strains were isolated. The isolated strains were identified based on the morphological, biochemical, and physiological characteristics. All the 16 actinomycetes were selected for antimicrobial activity. Totally 16 actinomycetes strains were isolated. Antifungal activity was determined against two fungal pathogenic such as Aspergillus niger, Fusarium moniliforme. Streptomyces griseoflavus SDAP101 showed maximum level of inhibition against Aspergillus niger followed by Fusarium moniliforme. Molecular characterization of Streptomyces griseoflavus SDAP101 were evaluated by PCR amplification of 16SrRNA gene. The genomic DNA and amplified products were separated in agarose gel and the16SrDNA gene of Streptomyces griseoflavusSDAP101/species isolated from soil was partially sequenced using specific 16SrDNA sequence primer. The phylogenetic analysis revealed that its closest neighbor was EU827474.1. The16SrDNA secondary structure and the restriction sites of SDAP101 were predicted using Genebee online software respectively.

Outcome: The isolation, characterization of the rare actinomycetes from the saltpan region will be useful for the discovery of the novel bioactive metabolites that are effective against wide range of pathogens

Key words: Streptomyces sp, SDAP101, antibacterial activity, molecular taxonomy, phylogenetic analysis.

7. Beliefs and Attitudes of Brazilian Patients regarding Antibiotics use
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ABSTRACT

Plan: In order to gather information on the behavior and perceptions on the use of antibiotics by the population of a Brazilian city.

Methodology: Appropriate treatment of infectious diseases requires: a correct diagnosis, the exact choice of the drug, and especially that the patient use the antibiotic properly. The present study searched for information on the behavior and beliefs of Brazilian patients regarding the use of antibiotics. The study interviewed 385 patients who were treated with these drugs.

Outcome: The results showed a misinformed public with false beliefs, including that antibiotic use can improve conditions such as colds and flu. Educational campaigns should be directed to those populations by improving health education, increasing patients’ compliance to treatments.

Key words: beliefs, attitude, antibiotic use
8. Mosquito repellent activity of *Calotropis gigantea* (Apocynaceae) flower extracts against the filarial vector *Culex quinquefasciatus*

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**Article history**: Received: 12 July 2013, revised: 21 July 2013, accepted: 10 August 2013, Available online: 3 October 2013

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**ABSTRACT**

**Plan**: To assess the repellent efficacy of the flower extracts of *Calotropis gigantea* against *Culex quinquefasciatus* mosquito and to screen the bioactive compounds present in the flower extract.

**Methodology**: The flower extracts of *Calotropis gigantea* were extracted with petroleum ether, chloroform and ethanol and the efficacy of the extracts as repellent were assessed on three day blood starved female *Culex quinquefasciatus* mosquito. The repellent study was following the method of WHO (1996).

**Outcome**: The results suggested that flower ethanol extract of *Calotropis gigantea* showed a higher repellency on the adult of female *Culex quinquefasciatus* mosquito than the other two extracts. The repellent activity was found to be dose dependent and the percentage of protection was found to be directly proportional to the concentration of extract. The results of phytochemical screening showed the presence of bioactive compounds such as alkaloids, tannins, phenol, flavonoids, sterols, anthraquinone, proteins and quinones in the flower extract. It may be concluded from the result that ethanol extract of *Calotropis gigantea* flower was effective in mosquito vector control and has an excellent potential in controlling the mosquito.

**Keywords**: *Culex quinquefasciatus*, flower extracts, repellent activity, *Calotropis gigantea*
9. Phytochemical, Cytotoxic, anti-Herpes Simplex Virus type 1 (HSV-1) and anti bacterial studies of Terminalia laxiflora Engl. and Diels.

Khaled Rashed¹, Lucy Ono²

1. National Research Centre, Pharmacognosy Department, Dokki, Giza, Egypt.
2. Yasuyoshi Hayashi Microbiology Laboratory, Department of Basic Pathology, UFPR, Curitiba, PR, Brazil.

ABSTRACT

Plan: The aim of the present research was focused on cytotoxic, antiviral and antibacterial properties and the main phytoconstituents of Terminalia laxiflora leaf methanolic extract.

Methodology: The methanolic 80% extract of Terminalia laxiflora leaves was tested for cytotoxicity evaluation in Vero cells in-vitro, anti-HSV-1 activity and antibacterial activity determinations against some bacteria strains and also phytoconstituents were detected.

Outcome: The results showed that Terminalia laxiflora leaves methanol 80% extract showed CC₅₀ = 1851 μg/mL and also inhibited completely the development of the HSV-1 induced cytopathic effect at concentration of 238 μg/mL while the extract had no effect on bacterial strains. Phytochemical analysis of the extract revealed the presence of carbohydrates, tannins, flavonoids, alkaloids, triterpenes and chromatographic separation of the extract of Terminalia laxiflora leaves resulted in the isolation and identification of β-sitosterol, m-gallate, gallic acid, ellagic acid and five flavonoids, quercetin, vitexin, iso vitexin, quercetin 3-O-α-rhamnoside and rutin. This research may be useful in the development of new and effective antiviral agents.

Keywords: Terminalia laxiflora, leaves, cytotoxicity, anti-HSV-1, antibacterial, phytoconstituents, methanolic extract

10. Formulation and in-vitro Evaluation of oral Floating Nicardipine hydrochloride Tablets

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ABSTRACT

Plan: The purpose of this research was to develop floating matrix tablets of Nicardipine HCl (NIC) using different viscosity grades of direct compressible polymers with gas generating agent so as to prolong its gastric residence time.

Methodology: The tablets were prepared by direct compression technique. Precompresional and post compresional parameters were evaluated. In vitro dissolution studies were carried out in gastric acid fluid (pH 1.2). The mechanism of drug release from matrix tablets were analyzed kinetically using zero order, first order, Korsmeyer peppas, Higuchi and hixon Crowell models.

Outcome: The FTIR studies revealed no interaction between the drugs and excipients. F7 with R² value 0.9965 was considered optimized formulation with short floating lag time and long floating duration and release over 24h duration.

Keywords: Floating tablet; dissolution; Nicardipine HCl; HPMC; kinetic models.
11. Syntheses and in-vitro Anti-platelet aggregation activity of some New substituted Thiophenes

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ABSTRACT

Plan: To synthesize some novel 2-amino thiophenes with various substitutions at 2-amino position for anti-platelet aggregation activity.

Preface: Various substituted and condensed thiophenes are reported to possess a wide variety of biological and pharmacological activities such as antibacterial, antifungal, anti-inflammatory, anti-platelet aggregation activity, antipyretic, antitumor and so on. Thus a series of new thiophenes have synthesized with various substituents at 2-amino position and screened for anti-platelet aggregation activity.

Methodology: The starting material (JMS-2) was prepared by the application of versatile Gewald reaction. It was then derivatized to various Schiff bases JMS-2(a-m) by reacting with various substituted aromatic aldehydes. The synthesized new compounds were characterized by MP, TLC, IR, NMR and Mass spectra and were screened for their In-vitro anti-platelet aggregation activity by GVR Born method using Heparin as the standard.

Outcome: Compound JMS-2a, JMS-2b, JMS-2d and JMS-2i showed good % inhibition and were found to be more significant.

Keywords: 2-amino thiophene, Gewald reaction, anti-platelet aggregation.

12. Stability Indicating RP-HPLC method for the Ceftaroline Fosamil acetate

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ABSTRACT:

Plan: Stability indicating RP-HPLC method for the ceftaroline fosamil acetate.

Preface: The developed method is simple, fast and accurate and can be used for routine analysis of Market formulations.

Methodology: Stability indicating reverse phase high performance liquid chromatography method was developed and validated for the analysis of ceftaroline fosamil in bulk form. Chromatographic separation was achieved on a X- Bridge shield RP (4.6x100mm, 5µ) column, maintained at 30°C with a mobile phase consisting of acetonitrile and ammonium dihydrogen orthophosphate buffer in the ratio of 10: 90. The mobile phase pumped at a rate of 1 ml/ min. and the detection was carried out at 242.6nm by PDA detector. The retention time was obtained 4.312. The peak area plot was linear over the concentration range of 50µg/ml to 250 µg/ml. The different experimental parameters affecting the stability were optimized. The method was validated for accuracy, precision, specificity, robustness, LOD and LOQ in accordance with International Conference on Harmonization (ICH) guidelines.

Outcome: The proposed method was successfully applied for the analysis of ceftaroline fosamil in bulk form.

Keywords: Ceftaroline Fosamil, RP-HPLC method, Validation.