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Kanase KG, Shinde NV, Bharti DK, Undale VR and Bhosale AV.....45

ABSTRACT

Diabetes mellitus, a metabolic disorder characterised by high levels of blood glucose, is associated with several vascular complications. Although insulin treatment, oral medications, dietary regulations and exercise can delay the development of diabetic microangiopathy, the development of macroangiopathy cannot be prevented solely by glycaemic control. However, diabetic-macroangiopathy refers mainly to an accelerated form of atherosclerosis. This in turn affects both the coronary and cerebral vasculature, thus increasing the risk of myocardial infarction, angina pectoris and cerebrovascular accidents. Diabetes mellitus in humans and animal models of diabetes are associated with impaired endothelium-dependent relaxation i.e. endothelial dysfunction. Endothelial dysfunction, a surrogate marker for the development of diabetic macroangiopathy.1, 2, 3

KEY WORDS: Diabetes mellitus, Endothelial dysfunction, Hyperglycemia, Oxidative stress.

- **Marburg Haemorrhagic Fever: A Review**
Shashikant Pattan, Nachiket Dighe, Sanjay Bhawar, Vinayak Gaware, Deepak Musmade, Mangesh Hole, Smita Parjane, Mayur Bhosale and Sapana Nagare.....50

ABSTRACT

Marburg virus belongs to the same virus family, filoviridae, as the virus, which causes Ebola haemorrhagic fever. Marburg virus was first recognized in 1967 when outbreaks of haemorrhagic fever occurred in Marburg and Frankfurt in Germany and in Belgrade in the former Yugoslavia. Multiple organ failure Severe bleeding, Jaundice ,Delirium ,Seizures ,Coma and Shock are common symptoms. Nosocomial transmission via contaminated syringes and needles has been a major problem. Transmission by droplets and small-particle aerosols was observed in outbreaks among experimentally infected (Marburg) and quarantined imported monkeys. Many people were infected as a result of being exposed to African green monkeys imported from Uganda. Secondary spread of the disease is via contact with infected persons or contact with blood, secretions, or excretions of infected persons. The virus may continue to be shed in the patient's semen for up to 3-4 months after illness. One reason the viruses are so deadly is that they interfere with the immune system's ability to mount a defense. ELISA can reveal the correct diagnosis.Till today, no vaccine is available but supportive hospital therapy should be utilized including balancing the patient's fluids and electrolytes, maintaining their oxygen status and blood pressure, replacing lost blood and clotting factors and treating them for any complicating infections.

Keywords: Marburg virus, haemorrhagic fever, Filoviruses

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ABSTRACT:

To increase the drug response, the pharmacogenomics applicable in pharmacotherapy by studying genomic level of the human being pharmacogenomics examine the role of entire genome in both disease susceptibility and drug response; in an attempt to identify specific genes, human genetic variation RNA and protein expression differences, that are associated with specific diseases and that may be targets for new drugs. Pharmacogenomics show ability to explore not only drug metabolizing polymorphisms but also drug target polymorphism, drug transporter polymorphisms.

Many factors influence drug responses including age, gender, body weight, patient health, disease status, diet, smoking, alcohol, and exercise and drug interaction. However despite careful consideration of these factors, there is no guarantee that a given treatment will be effective. It is thought that a major cause for variability in drug responses lies in patient's genetic makeup. Genetic variations can be used to explain inter individual differences in drug response.

Pharmacogenomics is the study of how individual's genetic inheritance affects the body's response to drugs. The term comes from the words pharmacology and genomics and is thus the intersection of pharmaceuticals and genetics.

Pharmacogenomics holds the promise that drugs might one day be tailor-made for individuals and adapted to each person's own genetic makeup. Environment, diet, age, lifestyle, and state of health all can influence a person's response to medicines, but understanding an individual's genetic makeup to be the key to creating personalized drugs with greater efficacy and safety.

KEY WORDS: Pharmacogenomics, Individual's genetic inheritance, genome, personalized drugs.

RESEARCH ARTICLE

- **Antioxidant Activity of *Alphonsea sclerocarpa* Bark**
Dasari Narendra Prasad.....66

ABSTRACT

In vitro antioxidant activity of *Alphonsea sclerocarpa* has been investigated by DPPH [1,1-diphenyl, 2-picrylhydrazyl] free radical and Hydroxyl radical scavenging activity. The ethanolic extracts of *Alphonsea sclerocarpa* has showed the significant free radical scavenging property by inhibiting the DPPH free radical and was evaluated by comparing with standard Curcumin and ascorbic acid. The ability of *Alphonsea sclerocarpa* bark extracts to inhibit the hydroxyl free radical production has also been evaluated and compared with standards Vitamin E and Catechin, which found to very promising results.

KEY WORDS: *Alphonsea sclerocarpa*, Antioxidant activity, DPPH, free radical.

- **Anti-inflammatory Activity of a Protease Extracted from the Fruit Stem Latex of the Plant *Artocarpus heterophyllus* Lam.**
Indranil Chanda, Smriti Rekha Chanda and Sadhan Kr Dutta.....70

ABSTRACT

The anti-inflammatory activity of the new protease fraction Artocarpain-H extracted from the fruit stem latex of the plant *Artocarpus heterophyllus* Lam. was evaluated using Carrageenan induced rat paw oedema and Cotton pellet-induced granuloma model. The Artocarpain-H dose dependently inhibited carrageenan induced rat paw edema. It also showed reduction on the granuloma weight in the cotton pellet granuloma method. In the present investigation, as the test drug is effective in both models of inflammation, there is a possibility that these drugs may be effective in acute and chronic inflammation.

KEY WORDS: Protease, Artocarpain-H, rat paw oedema, granuloma.

- **Determination of Bioequivalence of Two Oral Formulations of Gatifloxacin Tablets in Healthy Male Volunteers Using Urinary Excretion Data.**
Kuchake VG, Patil PH, Mahajan HS, Ingle PV, Surana SJ, Thakare MM, S Sudharshini.....73

ABSTRACT

The present study describes development of a sensitive and simple HPTLC method for estimation of gatifloxacin (GTN) in human urine sample. The drug was extracted using chloroform after adjusting the pH of urine to 7.0. Chloroform extract was spotted on silica gel 60 F254 TLC plate and was developed in a mixture of n-butanol/methanol/ammonia (5:1:2, v/v/v) as the mobile phase and scanned at 292 nm. The peak for GTN resolved at RF of 0.47. The method was validated in terms of linearity (200 to 1200 ng/ μ L), precision, specificity and accuracy. The limit of detection and limit of quantification for GTN in urine were found to be 25.64 and 77.70 ng, respectively. The average recovery of GTN from urine was 100.68%. The proposed method was applied to generate urinary excretion data for GTN after administration of two market GTN tablet formulations (400 mg, Formulation R and Formulation T) to twelve healthy human volunteers in a two-treatment, open, crossover design. Various pharmacokinetic parameters like peak excretion rate ($(dXU/dt)_{max}$), time for peak excretion rate (t_{max}), AUC_{0-48} , $AUC_{0-\infty}$, cumulative amount and % cumulative amount of GTN excreted, elimination half-life ($t_{1/2}$), terminal elimination rate constant (k_{el}) and overall elimination rate constant (K), were calculated for both the formulations. The average cumulative amounts of GTN excreted in urine after administration of Formulation R and Formulation T were found to be 304 ± 11 mg (82.32 ± 2.75 % of dose) and 315.2 ± 13.50 mg (78.8 ± 3.37 % of dose), respectively. The urinary excretion profiles of GTN up to 48 h for both the formulations were found to be similar. Statistical comparison (90% confidence intervals of ratio) of various pharmacokinetic parameters of Formulation T with that of Formulation R revealed that Formulation T is bioequivalent with Formulation R. Bioequivalence

KEYWORDS: Gatifloxacin; HPTLC; Urinary excretion; Bioequivalence

- **Study of Anti-Inflammatory potential of Ethanolic Fraction of Seeds of *Ocimum basilicum* Linn.**
Pankaj Rakha, Manju Nagpal, Sunil Sharma and Milind Parle.....79

ABSTRACT

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KEY WORDS: Anti-inflammatory, carrageenan, formalin, granuloma.

- **In Vitro Study on *Pavonia odorata* (Roots) For Anthelmintic Activity**
Ashish Singhai, PK Singour, G Garg, RS Pawar and UK Patil.....82

ABSTRACT

Pavonia odorata (Malvaceae) commonly known as *sugandhabala* was evaluated for anthelmintic activity. Study on alcoholic and aqueous extracts were designed in dose-dependent manner and the parameters observed as paralysis time and death time. The alcoholic extract was found significant when compared with standard drug and more potent than the aqueous extract. Further, it will be interesting to isolate the possible phytoconstituents, which may be responsible for the anthelmintic activity.

KEY WORDS: *Pavonia odorata*, anthelmintic activity, *Pheretima postuma*.

- **Anthelmintic Activity of Latex of *Carica papaya***
Nilesh Gupta, UK Jain, Brij Bhushan Tiwari and Vishvnath Gupta.....85

ABSTRACT:

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KEY WORDS: *Carica papaya*, *Pheretima posthuma*, Anthelmintic activity, fruit latex.

- **Antibacterial and Anti-Diarrhoeal Activities of Flowers of *Punica granatum* Linn**
Swati Patil, S Prabhu, CI Jolly and S Narayanan.....87

ABSTRACT

Different extracts of *Punica granatum* flowers (Variety: Gulnar) were tested for antibacterial and anti-diarrhoeal activities. All the extracts showed good antibacterial activity which was comparable to that of cold water extract of *Punica granatum* fruit rind. Cold extracts showed better anti-diarrhoeal activity than soxhlet extracts in castor oil induced diarrhoea in rats as a model. Their anti-diarrhoeal activity was comparable to that of loperamide hydrochloride.

KEY WORDS: *Punica granatum*, antibacterial activity, anti-diarrhoeal activity.

- **Wound Healing Activity of Latex of *Euphorbia nivulia* Buch.-Ham. in Mice**
SB Badgajar, RT Mahajan and MZ Chopda.....90

ABSTRACT:

Wound healing activity of *Euphorbia nivulia* Buch.-Ham. (Euphorbiaceae) was evaluated using excision wound model in albino mice by applying latex topically on the area of excised wound once a day for 23 days. Plant latex significantly enhanced the rate of wound contraction and period of epithelialization, which is comparable to Soframycin. Latex of this plant significantly reduces the bleeding and whole blood clotting time. Phytochemical analysis revealed the presence of alkaloids, cynogenic glycosides, phenolics, tannins and saponins. The latex of *Euphorbia nivulia* possesses natural ingredients capable of arresting wound bleeding and accelerating wound healing properties which suggests healing potential to cure wound.

Key words: Bleeding time, *Euphorbia nivulia*, Excision wound, Wound healing.

- **Screening For Wound Healing Activity of Alcoholic Extract of *Ocimum kilimandscharicum* Leaves**
Sachin R Patil, Swati Patil, M B Patil, Ravi Kumar and Mahesh S Paschapur.....93

ABSTRACT

Objective: To investigate and rationalize the effects of *Ocimum kilimandscharicum* leaves (Lamiaceae) for their wound healing activity and probable mechanism underlying its protective effects in albino wistar rats.

Methods: The wound healing activity was evaluated using three different types of wound models viz; the excision, incision and dead space wound model. A supportive study was also made on granuloma tissue to estimate the level of hydroxy proline. The healing tissues obtained on the 11th post wounding day of the incision wound model were processed for histological study.

Results: The animals receiving the alcoholic extract of *Ocimum kilimandscharicum* leaves has shown to possess significant increase in wound closure rate, skin breaking strength, granuloma breaking strength, hydroxy proline content, granuloma dry weight and decrease in mean scar area.

Conclusion: The prohealing potential of the *Ocimum kilimandscharicum* leaves extract may probably be as a result of the presence of a mixture of phytoconstituents including flavonoids, steroids, etc. and increased collagen deposition as well as better alignment and maturation.

KEY WORDS: *Ocimum kilimandscharicum*, alcoholic extract, wound healing, hydroxy proline, phytochemicals.

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A and V Publication, E-282 'Saikripa' Sector-4, Pt. Deendayal Upadhyay Nagar, Raipur 492010. (CG) India
Phone No. +919406051618. E. mail: editor.rjppd@gmail.com; Website: www.anvpublication.org