WOUND HEALING AND WOUND DRESSING – AN OVER VIEW

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Abstract: The production of wound dressings and bandages has become a rapidly developing field of polymer chemistry for medical applications. Modern dressings are significantly differing from traditional in both design and properties. Wound dressings are based on the concept of creating an optimum environment to allow epithelial cells to move unimpeded, for the treatment of wounds. Wound dressings can also help decrease

or eliminate pain, reduce the need for dressing changes, and provide autolytic debridement if used appropriately. Choosing the right dressing depends on wound assessment and characteristics.

This paper confers the type of wound, type of dressing and role of advanced dressing materials and their relevance in wound healing. It also articulates the different requirements of wound dressings in the different phases of the wound healing.

Key Words: Wounds, Wound dressing, Wound healing, Hyaluronan, Hydrocolloids.

ANTI – INFLAMMATORY ACTIVITY OF ETHANOLIC AND ACETONE EXTRACTS OF PHYLLANTHUS SIMPLEX RETZ.

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ABSTRACT: The ethanolic and acetone extracts of *Phyllanthus simplex Retz* was examined for anti-inflammatory in experimental animals. In this study both acute and sub-acute inflammation models were used to evaluate the anti-inflammatory activity of Phyllanthus simplex Retz. In aute model, carrageenan was used to induce inflammation in rat hind paw and in sub-acute inflammation; cotton pellet induced granuloma was performed. The ethanolic and acetone extracts prepared from whole plant of phyllanthus simplex Retz showed a significant activity ($p<0.001$) at the dose of 400mg/kg by inhibiting the inflammation of both acute and sub-acute anti- inflammatory models. The percentage inhibition of ethanolic and acetone extracts of Phyllanthus simplex Retz for both acute and sub-acute inflammatory models has been found to be 43.14%, 35.29% and 42.20%, 33.53% respectively. According to the above result both the extracts of

Phyllanthus simplex Retz at a dose level of 400mg/kg reveals the anti-inflammatory activity

Keywords: *Phyllanthus simplex,* Anti-inflammatory, Carrageenan, Cotton pellet granuloma.

NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS INDUCED HYPERLACTATEMIA IN HIV PATIENTS

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ABSTRACT: Objective: To describe the prevalence, risk factors and outcome of Hyperlactataemia (HL) in HIV infected patients under Stavudine, Lamivudine and Nevirapine combination and to evaluate the effectiveness and the pattern of improvements in CD$ T cell Count with progression of therapy. Patients and methods: A comparative cohort study of venous lactate determinations in 80 HIV Patients classified into four groups according to their duration of exposure to the antiretroviral therapy ranging from 6 to 18 months. The frequencies and the complications of hyperlactataemia were determined. Baseline parameters were compared with immunologic recovery, progression of therapy and the outcome of patients with and without hyperlactataemia. Results: Among 80 patients included in the analysis, hyperlactataemia was found in17 patients (28%) with a higher incidence in female gender 11 (65%) and6 (35%) case in their counterpart. Only 8/17 cases (47%) had symptoms of hyperlactataemia, none has reported a serious adverse effect requiring a chane in therapy. An exremly significant increase in CD4 count was observed in all the NRTI therapy patients ($p<0.001$). Also we noted a significant reduction in AIDS defining illness and the progression to the AIDS with improvements in the CD4 count. Conclusion: Hyperlactataemia (HL) is associated with NRTI (Nucleoside reverse transcriptase inhibitor) use in our study. HL was more prevalent among female gender requiring careful attention and point out the necessity for a dosage regimen appropriate to them. Sympotomatic HL requires careful monitoring. Measurement of lactate under standardized conditions may be useful in managementof HIV infected persons on NRIT therapy.

Keywords: Hyperlactataemia, HIV, NRTI, CD 4.

LONG TERM STABILITY STUDIES AND SHELF-LIFE PREDICTION OF VORICONAZOLE IN 50mg TABLETS

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ABSTRACT: In the present study, ong term stability studies (30^{o}C $\pm$ 2^{o}C, 65 $\pm$ 5% RH.12moths) in-house tablets of voriconazole was carried out according to ICH Q1A®, for estimation of the shelf life and degradation product at long term stability storage. Accelerated stability studies were also carried out at 40^{o}C $\pm$ 2^{o}C, 75 $\pm$ 5% RH for 6moths as per ICH guidelines. Parameters evaluated were physical appearance, percentage drug content, percentage dissolution and percentage related impurity studies of the tablets. The degradation rate constant was found to be 0.190/moth and the predicted shelf life was 4.18years. There was not any significant change from the initial value in accelerated and long term stability conditions and the formulation was found to be stable during the study. The results were demonstrated that accelerated stability testing can reveal the degraded impurities of formulation to an extent.

Keywords: *voriconazole,* ICH guidelines, Accelerated stability studies, Shelf life.

SPECTROFLUORIMETRIC ESTIMATION OF CISAPRIDE

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ABSTRACT: Cisapride is a substituted piperidinyl benzamide chemically related to metoclopramide; (±) cis-4-amino-5-chloro-N-[1-[3-(4-fluoro phenoxy) propyl]-3-methoxy-4-piperidinyl]-2-methoxy benzamide. Primary aromaticamines fluoresece in solution with high relative flurorescence intensity. Cisapride dissolved in 0.03%v/v acetic acid has an excitation maximum at 272nm and emission maximum at 355nm. A stabilizayion time of one hour after makeup of solution was necessary to get steady fluorescence intensity. The calibration graph was linear in the range of 100 to 500 ng/ml of cisapride.

Keywords: *Cisapride,* spectrofluorimetry, 0.03%v/v acetic acid, excitation maximum, emission maximum.

FORMULATION DEVELOPMENT OF PELLETS USING DIFFERENT GRADES OF HPMC BY EXTRUSION SPHEPONIZATION TECHNIQUE

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ABSTRACT: The aim of the present study was to determine the feasibility of using different grades of HPMC namely methocel K4M, Methocel K100M, Methocel K100LV, Methocel E5LV, and Methocel E15LV for developing pellets containing Diclofenac sodium as model drug. Pellet wwas prepared using the mentioned grades by extrusion- spheronisation techniques, evaluated for physiochemical properties and dissolution criteria. The pellet prepared with Methocel K4M was found to have better physiochemical properties, faster release rate and the result was comparable with marketed formulation. Further to prove the efficacy, a single phase bioavailability study was carried out using rabbit as animal model. The result clearly indicated that pellets with Methocel K4M has shown faster absorption and may be used for developing pellets to achieve better bioavailability, minimize potential side effects and offering the cost effective products.

Keywords: *pellets,* fast release, Methocel K4M, HPMC, and Extrusion- spheronisation.

DEVELOPMEN AND CHARECTERISATION OF MICRO-SPONGE DELIVERY SYSTEM FOR SILVER SULFADIAZINE

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ABSTRACT: Silver sulfadiazine is commonly used as anti-burn topic antibiotic which possess a problem of skin irritation. The present study is focused to formulate micro-sponge delivery system with sustained release profile to avoid the side-effect by reducing the percutaneous absorption. Quasi emulsion emulsion solvent diffusion method was adopted to formulate ethyl cellulose microsponge loaded with silver sulfadiazine. The prepared microsponge was formulated into gel for external application. Prepared formulation is subjected to the particle size analysis and reports suggest that particles were in the range of 5-300μm. Characterization studies like pH, drug content, encapsulation efficiency was carried out by standard procedures. Comparative diffusion studies for different formulation were carried out using Franz diffusion cell. Results suggest that formulation D1, D2 and D3 are having a better release profile. Stability studies for the gel packed in aluminum collapsible tubes were carried out for a period of twelve months and reports shown a good stability profile of the prepared formulation. The prepared formulations are better delivery system with less side-effect for silver sulfadiazine. The dosing frequency can be minimized due to the sustained release profile.

Key Words: Microsponges, Silvadene, Quasi emulsion solvent diffusion techniques, Drug diffusion studies, Stability studies.

A COMPARISON OBSESITY AND POLYSOMANOGRAPHIC VARIABLES IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

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ABSTRACT: The potential associations between apnea hypopnea index and polysomnographic variables were studied among Obstructive sleep apnea syndrome (OSAS). A total of 44 patients were enrolled in the study who were diagonosed as obstructive sleep apenea syndrome. The mean age was 52±10.5years. The mean age of males was 50.92±10.05 and 58.83±11.63 for females. In the study population male patients were comparatively higher 86% than female patients. The patients were classified into three groups with apnea hypopnea index; mild (5-14.9), moderate (15-29.9) and severe (≥30). Patients were grouped by the presence and severity of sleep apnea. The excessive daytime sleep (EDS) score was assessed for each patient and the mean EDS score for mild, moderate and severe obstructive sleep apnea syndrome groups were 4±4.0, 6±5.92 and 10.25±6.11 respectively. The EDS score was higher in server obstructive sleep apnea syndrome patients ($p = 0.01$). The mean EDS score for the sample as a whole was 7.39±6.10. From the observation there was a positive correlation with EDS and apnea hypopnea index ($r = .431$) ($p<0.01$). The mean Apnea hypopnea index for the sample as a whole was 34.08±26.26. Further we found that there was a significant correlation for apnea hypopnea index with Oxygen desaturation ($r=0.555$) [$p<0.01$] and Respiratory arousal index ($r = 0.322$) [$p<0.05$].

Key Words: Obstructive sleep apnea syndrome, Apnea Hypopnea Index, Excessive daytime sleepiness.