CHAPTER-2
Survey of literature
1. CEFADROXIL

Various techniques adopted for the estimation of cefadroxil are Spectrophotometric method\textsuperscript{1,2,3,4,8,9}, reversed-phase column liquid chromatographi\textsuperscript{5,6}, HPLC\textsuperscript{7,10}

Chilkuri S.P. Sastry\textsuperscript{1} has developed three simple and sensitive visible spectrophotometric methods for the assay of cefadroxil have been developed. Method \textit{A} ($\lambda_{\text{max}}$ 410 nm) is based on the reaction of cefadroxil with 3-methyl-2-benzothiazolinone hydrazone hydrochloride in the presence of eeric ammonium sulphate. Method \textit{B} ($\lambda_{\text{max}}$, 510 nm) involves the reaction with 4-aminophenazone in the presence of potassium hexacyanoferrate(III). Method \textit{C} ($\lambda_{\text{max}}$, 620 nm) involves reaction with 2, 6-dichloroquinone-4-chlorimide (Gibb's reagent). All variables have been optimised and the reaction mechanisms presented.

El-Gindy A et al\textsuperscript{2}, presented for the determination of cefuroxime and cefadroxil in human urine using first ([1]D) derivative spectrophotometry and high-performance liquid chromatography. Cefuroxime and cefadroxil were determined by measurement of their first-derivative amplitude in 0.1 N sodium hydroxide at 292.5 and 267.3 nm, respectively in the concentration range of 2-10 $\mu$g ml \textsuperscript{1} for each drug.
Haresh M. Patel et al\textsuperscript{3}, have developed that a simple and sensitive spectrophotometric method has been developed for determination of cefadroxil in bulk powder and its pharmaceutical dosage forms. The proposed method was based on reaction of primary amine group of cefadroxil and acetyl acetone-formaldehyde reagent, which gives a yellow coloured chromogen with absorption maxima at 400.0 nm.

Helaleh M.I.H., Abu-Nameh E.S.M\textsuperscript{4}, has developed that a new, simple, and sensitive kinetic spectrophotometric method is described for analysis of cefadroxil by measurement of its absorbance at 470 nm after hydrolysis with NaOH at 80°C. Studies of the method's precision and accuracy gave a standard deviation of 0.44 μg/mL and a relative standard deviation of 1.93%. The method determines cefadroxil over the concentration range 10-100 μg/mL.

Hendrix C et al\textsuperscript{5}, proved comparative study of two isocratic liquid chromatographic methods for the determination of cefadroxil is described. The first method, prescribed in the monograph of the European Pharmacopoeia for the assay of cefadroxil, uses a classical alkyl-bonded phase (C[18]) as the stationary phase. This method is very similar to that prescribed by the United States Pharmacopeia.

Hsu MC et al\textsuperscript{6}, proved that a reversed-phase column liquid chromatographic method was developed for the assay of cefadroxil in bulk
drugs and pharmaceutical preparations. An equation was derived showing a linear relationship between peak-area ratios of cefadroxil to dimethylphthalate (internal standard) and the cefadroxil concentration over a range of 0.02-0.8 mg/ml \((r = 0.9999)\).

JA Mc Ateer et al\(^7\), proved that an isocratic "high-performance" liquid-chromatographic (HPLC) procedure for measurement of five orally administered cephalosporins (cefixime, cefaclor, cefadroxil, cephalexin, and cephradine) in 0.1 mL of human serum. Serum protein is precipitated with acetonitrile, the sample is centrifuged, and the supernate is evaporated under nitrogen.

Jirayu Makchit et al\(^8\), developed that sequential injection analysis (SIA) spectrophotometric procedure for cefadroxil determination has been developed. The SIA instrumentation was modified to achieve the desired function and operations by using the software developed to interface the PC with the conventional SIA system. The method is based on the measurement of a red, water-soluble product formed by the reaction between cefadroxil and 4-aminoantipyrine in the presence of alkaline potassium hexacyanoferrate(III) at 510 nm.

Ronald J. Gorski et al\(^9\), prosed a simple spectrophotometric method for the estimation of cefsulodin, cefmenoxime, and cefadroxil. The method is
instantaneously in aqueous sodium hypochlorite, sodium hypochlorite-
detergent, or alkaline detergent solutions. These alkaline solutions are used to
clean surfaces that have been exposed to the cephalosporins.

Welling P G et al\textsuperscript{10}, have developed the HPLC method estimation of
cephalexin and cefadroxil. The method were compared following single 500
mg oral doses to 12 healthy male volunteers. Doses were administered after an
overnight fast according to a crossover design. Plasma and urinary levels of
both compounds were determined by HPLC procedures.

2. METHYLEDOPA

J. J. Berzas Nevado et al\textsuperscript{1}, proposed a flow-injection spectrophotometric
method for determining dopamine and methyldopa. It is based on the oxidation
reaction with metaperiodate. Calibration graphs were linear up to $2\times10^{-4}$ mol/l
catecholamines. The method allows the measurement of 130 samples per hour
and was successfully applied to the analysis of pharmaceuticals.

Krishan G et al\textsuperscript{2}, has developed that a simple colorimetric estimation of
methyldopa based on its conversion to a nitroso derivative is discussed. The
absorbance of the orange colour so obtained is recorded at the maximum of
490 nm in alkaline medium. The results are comparable with the official I.P.
procedure.
Metwally M el – S3 has developed stability-indicating high-performance liquid chromatographic assay has been developed for the analysis of alpha-methyldopa (MD) in sustained-release capsules and in the presence of MD decomposition products and an MD industrial impurity, 3-O-methylmethyldopa (MMD). The method utilizes reversed-phase chromatography (cyano-bonded column), an acidic mobile phase containing sodium heptanesulphonate as ion-pairing reagent and UV detection.

Nagaraja P., Vasantha R.A., Sunitha K.R4., proposed a sensitive and simple spectrophotometric method for the estimation of catechol and its derivatives like dopamine hydrochloride (DPH), levodopa (LDP), methyldopa (MDP) and adrenaline hydrochloride (ADH) in both pure form and in pharmaceutical formulation. The method is based on the interaction of diazotised sulphanilamide (DSA) with catechol derivatives in the presence of molybdate ions in acidic medium. Absorbance of the resulting red coloured product is measured at 490 nm for pyrocatechol (PCL) and at 500 nm for other catechol derivatives.

Prodromos B. Issopoulos5 proposed a colorimetric method for the assay of carbidopa and methyldopa either in pure form or in pharmaceutical preparations. The method is based on the reduction of tetrazolium blue chloride in a non-aqueous alkaline medium by the substances analysed, and the
measurement of the absorbance of the pink-coloured diformazan solution, which is caused by this reduction.

P. R. S. Ribeiro., L. Pezza., H. R. Pezza, have developed a new, simple, precise, rapid and low-cost spectrophotometric method for methyldopa determination in pharmaceutical preparations. This method is based on the complexation reaction of methyldopa with molybdate. Absorbance of the resulting yellow coloured product is measured at 410 nm. Beer's Law is obeyed in a concentration range of 50 – 200 µg ml\(^{-1}\) methyldopa with an excellent correlation coefficient \((r = 0.9999)\). No interference was observed from common excipients in formulations.

Tubino et al., proposed a reliable and very simple kinetic method is proposed for the determination of a-methyldopa in pharmaceutical preparations. It is based of the oxidation of a-methyldopa, a catechol derivative, to quinone, by the ferric ion in the presence of salicylic acid and HCl.

3. DOMPERIDONE

Mohamed ME et al., developed that domperidone in pure form and in a number of pharmaceutical formulations (Motilium) has been determined in 0.5-N sulphuric acid by employing first-derivative at 294 nm and zero-order at 284 nm spectrophotometric modes.
M. Baudry et al\textsuperscript{2}, developed H-Domperidone, a potent antagonist of dopamine but less lipophilic than neuroleptic drugs, was studied as a potential ligand for cerebral dopamine receptors. It labeled with high affinity an apparently homogeneous population of non-interacting sites in a particulate fraction of mouse striatum. Association occurred rapidly and dissociation was relatively slow ($t_1/2 \sim 4$ min); this allowed extensive washing of membranes which reduced the non-specific binding to values as low as 5\% of the total binding.

M.S. Charde et al\textsuperscript{3}, proposed a simple, fast, precise multicomponent mode analysis method has been developed for simultaneous estimation of ranitidine and domperidone in tablet formulation. The sampling wave lengths selected for both the drugs were 229 nm, 245 nm, 285 nm, 294 nm on trial and error basis using methanol as solvent. The linearity for both drugs at all the selected wavelengths lies between 3.0 and 50 \text{ug/ml} for ranitidine and 0.2 and 3.5 \text{ug/ml} for domperidone. The concentrations of both the drugs were evaluated in laboratory mixture and marketed formulations. The recovery study was carried out by standard addition method.

M.S. Charde et al\textsuperscript{4}, have developed Vireodt's method for simultaneous estimation of ranitidine and domperidone involves absorbance measurement at
326 nm and 287 nm corresponding to the respective absorption maxima. The tablet formulation (Random, Mankind) was evaluated for the percent content of both the drugs at the selected wavelength.

Pierre Sokoloff et al\textsuperscript{5}, proved that \textsuperscript{3}H-Domperidone (\textsuperscript{3}H-DOMP) binding sites were compared in rat striatum and pituitary, regarding the effects of the non-hydrolysable GTP analog, Gpp(NH)p and inhibition by various dopamine (DA) antagonists. Gpp(NH)p (0.1 mM) elicited in both tissues a rightward shift in DA concentration-inhibition curves, but the changes in either IC\textsubscript{50} values or pseudo-Hill coefficients were larger in pituitary than in striatum.

Sahu R et al\textsuperscript{6}, proposed two simple, accurate, precise and economical procedures for simultaneous estimation of famotidine and domperidone in two component tablet dosage forms. The utilizing concept of standard addition. Both the methods utilize DMF/0.1N HCl (1:3) as solvent. Famotidine and domperidone at their respective Imax 267 nm and 285 nm shows linearity in the concentration range of 10-60 mg/ml.

T. M. MacDonald\textsuperscript{7} developed the effects of oral doses of the dopamine antagonist antiemetics metoclopramide and domperidone on baseline and dopamine stimulated renal function and systemic haemodynamics were assessed in a placebo controlled crossover study in 9 healthy volunteers.
Vinodhini C et al\textsuperscript{8}, proposed a simple, fast and precise multicomponent mode analysis and second derivative UV spectrophotometric method has been developed for the simultaneous determination of cinnarizine and domperidone in combined tablet dosage form. Shimadzu UV-1601 instrument was used and the $\lambda_{\text{max}}$ of cinnarizine and domperidone was found to be 247nm and 285nm using methanol as a solvent and linearity lies between 5-30mcg for cinnarizine and 10-30mcg for domperidone at their respective wavelengths.

4. RABEPRAZOLE

Chun-Jung Lin et al\textsuperscript{1}, developed that the pharmacokinetic and pharmacodynamic data suggest that CYP2C19 poor metabolizers might be subject to advantageous conditions, especially after day 4, for treating \textit{H. pylori} infection with rabeprazole.

C. V. Garcia et al\textsuperscript{2}, have to develop and validate the derivative spectrophotometric method for determination of the proton pump inhibitor rabeprazole sodium in pharmaceutical formulations. The technique was applied using water (pH 10.0) as diluent. The first-order derivative spectra were obtained at N=5, ??=4.0 nm, and determinations were made at 304 nm.

Maciej Świątkowski et al\textsuperscript{3}, have developed that Improvement in symptom intensity after eight weeks of therapy with rabeprazole was observed in all studied patients, associated with the disappearance of endoscopic and

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histological esophageal changes in 60% of the studied cases. Neither therapy with rabeprazole nor esophagitis amelioration had any influence on esophageal motility, which suggests that GERD results from primary esophageal motility disturbances.

Niioka T et al\textsuperscript{4}, describes that present study demonstrated that the AUC of rabeprazole can be estimated by the simple formula using two-point concentrations. This formula can be more accurate for the prediction of AUC estimation than that reflected by CYP2C19 genotypes without any determination, even if there are significant differences for the CYP2C19 genotypes. Therefore, this prediction formula might be useful to evaluate whether CYP2C19 genotypes really reflects the curative effect of rabeprazole.

S. Pillai and I. Singhvi\textsuperscript{5}, proposed three simple, rapid and accurate visible spectrophotometric methods. By using Orange G Dye for Quantitation of Citalopram Hydrobromide, Donepezil Hydrochloride and Rabeprrozole Sodium from respective Tablet Formulation. These developed methods are based on formulation of chloroform–extractable coloured complex of drug and dye.
5. GATIFLOXACIN

Christoph K. Naber et al\(^1\), proposed a new fluoroquinolone with extended antibacterial activity, is an interesting candidate for the treatment of chronic bacterial prostatitis (CBP). Besides the antibacterial spectrum, the concentrations in the target tissues and fluids are crucial for the treatment of CBP. Thus, it was of interest to investigate its penetration into prostatic and seminal fluid. GTX concentrations in plasma, urine, ejaculate, prostatic and seminal fluid, and sperm cells were determined by a high-performance liquid chromatography method after oral intake of a single 400-mg dose in 10 male Caucasian volunteers in the fasting state.

Dennis M. Grasela et al\(^2\), Data from this in vivo trial support in vitro experience with gatifloxacin and suggest that interactions are unlikely between gatifloxacin and drugs that are metabolized by CYP3A.

D. Andes and W. A. Craig\(^3\), developed that gatifloxacin is a new 8-methoxy fluoroquinolone with enhanced activity against gram-positive cocci. We used the neutropenic murine thigh infection model to characterize the time course of antimicrobial activity of gatifloxacin and determine which pharmacokinetic (PK)-pharmacodynamic (PD) parameter best correlated with efficacy.
Frank P. LaCreta et al\textsuperscript{4}, proved that Intravenous and tablet formulations of gatifloxacin are bioequivalent and therefore interchangeable. This permits greater flexibility in choosing oral or parenteral therapy, with the possibility of avoiding hospitalization based on knowledge that oral administration will deliver therapeutic exposure to the drug, or abbreviating hospital stay due to ease of switching from intravenous to oral therapy.

H. R. N. Salgado, C. L. C. G. Oliveira\textsuperscript{5}, proposed a simple, sensitive and accurate spectrophotometric method was developed for the assay of gatifloxacin in raw material and tablets. Validation of the method yielded good results concerning range, linearity, precision and accuracy. The absorbance was measured at 287 nm for gatifloxacin tablet solutions. The linearity range was found to be 4.0–14.0 µg/mL for gatifloxacin. It was also found that the excipients in the commercial tablets did not interfere with the method.

Lakshmi Siva Subramanyam and A. Muthukumaran\textsuperscript{6}, have developed three new simple and sensitive spectrophotometric methods in ultraviolet region have been developed for the determination of gatiflaxacin in bulk drug, pharmaceutical operations and biological samples. Results of analysis of all methods were validated statistically and by recovery studies.
Marilyn Lockyer et al\textsuperscript{7}, proved that the results indicate that the two formulations are both statistically different and equivalent, in the rate and extent of absorption. This may be due to a large sample size in relation to sample variance.

Paul G. Ambrose et al\textsuperscript{8}, developed that the relationship between drug exposure and the time course of antimicrobial effect at the primary infection site for acute maxillary sinusitis has not previously been explored. This single-center, open-label study quantified the time course of sinus sterilization, described gatifloxacin exposure at the infection site, and posed the hypothesis that the use of continuous and quantitative time-related end points may allow for better characterization of drug effect with fewer patients than traditional clinical trial approaches.

Tao Lu, Xilin Zhao, and Karl Drlica\textsuperscript{9}, proved that Antibacterial activities of gatifloxacin (AM1155), a new C-8-methoxy fluoroquinolone, and two structurally related compounds, AM1121 and ciprofloxacin, were studied with an isogenic set of ten quinolone-resistant, \textit{gyrA} (gyrase) mutants of \textit{Escherichia coli}. To compare the effect of each mutation on resistance, the mutant responses were normalized to those of wild-type cells.
6. TIZANIDINE

A. S. Bhavsar et al\(^1\), A reverse phase high performance liquid chromatograph method was developed for simultaneous estimation of tizanidine HCl and valdecoxib in tablet formulation. The separation was achieved by Luna C18 column and acetonitrile phosphate buffer pH 3.5(50:50v/v) as eluent, at a flow rate of 0.5 ml/min. Detection was carried out at 227 nm. The developed method was found to be accurate, precise and selective for simultaneous estimation of tizanidine and valdecoxib in tablets.

Devarajan and Sivasubramanian Lakshmi\(^2\) proved that two simple, precise and accurate methods for simultaneous estimation of valdecoxib and tizanidine in combined dosage form, have been described. Method 1 involves formation of Q-absorbance equation at 239.6 (isoabsorptive point) and at 241 nm, while method 2 involves formation of simultaneous equation at 241 and 229 nm, using methanol as solvent. Both the methods were validated, and the results were compared statistically. They were found to be precise, accurate, and specific. The proposed methods were successfully applied to estimation of valdecoxib and tizanidine in combined tablet formulation.

Manisha Puranik et al\(^3\), A simple, fast, precise and accurate RP-HPLC method was developed for the simultaneous estimation of valdecoxib and
tizanidine idrochloride in tablet formulations. The separation was achieved by Luna C18 Intersil column and acetonitrile: 0.02 M phosphate buffer buffer pH 3.5(60:40v/v) as mobile phase, at a flow rate of 1.5 ml/min. Detection was carried out at 240 nm. The developed method was found to be accurate, precise selective and rapid, it can also be used for routine quality control analysis of these drugs in combination tablets.

Marika Granfors\textsuperscript{4} developed that (1) investigate in vitro if tizanidine is metabolised by CYP enzymes and to identify the CYP enzymes mainly responsible for tizanidine elimination in order to evaluate its potential for in vivo drug-drug interactions, and (2) investigate the effects of CYP1A2 inhibiting drugs [fluvoxamine, ciprofloxacin and oral contraceptives (OCs)] on tizanidine pharmacokinetics and pharmacodynamics in healthy volunteers, and (3) correlate tizanidine pharmacokinetics with CYP1A2 activity, measured using a caffeine test.

Sujatha K et al\textsuperscript{5}, proved that a simple, fast and precise extractive spectrophotometric method for the assay of tizanidine hydrochloride has been proposed based on the formation of an ion-pair with Metanil yellow in acidic medium and the subsequent extraction of the ion-pair in chloroform. The yellow colored ion-pair showed an absorption maxima at 410 nm with apparent molar absorptivity of 9.0116 x 10\textsuperscript{3} l/m\textsuperscript{mol} cm\textsuperscript{-1}. The proposed
method gave reproducible results for the estimation of tizanidine hydrochloride from its pharmaceutical formulation.

Subramanian G et al, developed a reverse phase liquid chromatographic method was developed for the simultaneous estimation of tizanidine and valdecoxib in tablets. This method is based on using a Hypersil BDS C18 column using a mobile phase of 10 mM octane sulphonic acid sodium salt and 0.3% triethylamine (pH adjusted to 3.5±0.1 with orthophosphoric acid) and acetonitrile in the ratio of 70:30 v/v. Rofecoxib was used as an internal standard. The retention time of tizanidine, valdecoxib, and rofecoxib were 3.15, 10.92, and 16.24 min respectively.

7. STILBESTROL

I.R Wanless, J.Belgiorno and P Huet, proved that study documents the hepatic morphology and the ultrastructure of a model of hepatic fibrosis in rabbits. Rabbits were given a cholesterol-supplemented diet (1%), a stilbestrol diet (10 mg subcutaneously twice a week), or both treatments simultaneously for 7 weeks. Rabbits given the combined treatment developed sinusoidal and portal fibrosis with only a mild disturbance of acinar vascular relationships.
8. PROMETHAZINE

Bonazzi D et al\(^1\), proved that solid-phase extraction (SPE) using C-18, diol and ion-exchange sorbents followed by UV spectrophotometric (conventional and derivative mode) assay was applied to the analysis of basic, acidic and neutral drugs commercially available in creams. A representative set of drugs (promethazine, chlorhexidine, benzydamine, ketoprofen, ibuprofen, fentiazac, piroxicam, fluorouracil, crotamiton and hydrocortisone acetate) was selected, and for each drug the appropriate SPE conditions (adsorption, washing and elution) were investigated to obtain a practical and reliable sample clean-up.

D H Shawn and M A McGuigan\(^2\) proved that two cases in which dermal absorption of promethazine hydrochloride resulted in a toxic neurologic syndrome are reported. The symptoms included central nervous system depression, acute excitomotor manifestations, ataxia and visual hallucinations. In addition, peripheral anticholinergic effects occurred.

Lawrence R. DeChatelet et al\(^3\), developed that Promethazine hydrochloride at a concentration of 0.033 mg/ml has pronounced effects on leukocyte metabolism and function. The drug inhibits the phagocytosis-induced increases in \(O_2\) consumption and hexose monophosphate shunt
activity. Associated with these effects is an inhibition of the iodination of zymosan particles and an inhibition of bacterial killing by the cell. At least two mechanisms appear to be involved.

L. E. Mehl-Madrona proved that the combination of ketorolac and chlorpromazine is a safe and efficacious alternative to meperidine plus promethazine for the treatment of exacerbations of chronic pain in the rural emergency department setting.

Mojtaba Shamsipur developed that partial least-squares (PLS) regression, singular value decomposition-based PLS, and an artificial neural network (ANN) were tested as calibration procedures for the simultaneous determination of promethazine, chlorpromazine, and perphenazine by both conventional and derivative spectrophotometry. Comparison of the results revealed that the application of the ANN to the derivative spectra is superior to the application of the 2 PLS methods used.

M. Keeri-Szántó evidence is presented from more than 300 subjects to show that promethazine potentiates the action of six different narcotics (morphine, pethidine, oxymorphone, hydromorphone, fentanyl and pentazocine). In each instance there was prolongation rather than deepending of the narcotic action. Such an effect is consistent with the known membrane-stabilizing action of promethazine and is likely to occur at the site of
inactivation of the narcotic (e.g. liver) rather than at its principal site of action, the brain.

Theia'a Najim Al-Sabha et al\textsuperscript{7}, proved that A simple, rapid and sensitive spectrophotometric method for determination of trace amounts of promethazine hydrochloride in aqueous solution is described. The method is based on the oxidation of promethazine hydrochloride by sodium hypochloride and coupling with sulfanilic acid in the presence of sodium hydroxide to form an intense red soluble product with maximum absorption at 513 nm. The optimum conditions for all colour development are described and the proposed method has been successfully applied for the determination of promethazine hydrochloride in bulk drug and pharmaceutical formulations.

9. CHLORPROMAZINE

Basavaiah K et al\textsuperscript{1}, Three new methods using titrimetry and spectrophotometry are described for the determination of chlorpromazine hydrochloride with bromate-bromide mixture as the oxidimetric-brominating agent and two dyes, methyl orange and indigo carmine. In titrimetry (method A), the drug is treated with a measured excess of bromate-bromide reagent in acid medium, and the residual bromine is determined iodometrically. The two spectrophotometric methods involve the addition of a measured excess of bromate-bromide mixture to drug solution in acidic conditions followed by
estimation of the unreacted bromine by treating with a fixed amount of methyl orange (method B) or indigo carmine (method C) and measuring the absorbance at 520 nm (method B) or 610 nm (method C). Titrimetric procedure is applicable over 1-10 mg range and the reaction stoichiometry is found to be 1:1 (drug: bromate).

K. K. Midha et al\textsuperscript{2}, developed that a specific and sensitive high-performance liquid chromatographic (HPLC) method for the quantitative determination of plasma chlorpromazine concentrations is described. The procedure is capable of determining 1 ng of chlorpromazine/ml and is adequate for following plasma concentration-time profiles after 7-mg single intravenous doses. After a simple organic extraction of the drug and an internal standard (mesoridazine) from plasma, the organic layer was transferred to a vial and evaporated to dryness at 55\textdegree \text{C} under nitrogen. The residue was dissolved in 200 \textmu l of HPLC grade acetonitrile. Aliquots (70-100 \textmu l) were chromatographed, and the drug was quantitated in the range of 1-15 ng/ml of plasma using a fixed-wavelength UV detector.

Liu YM; Yu RQ\textsuperscript{3} developed that UV spectrophotometric simultaneous determination of chlorpromazine hydrochloride and promethazine hydrochloride. Methyl orange and indigo carmine. In titrimetry (method A),
the drug is treated with a measured excess of bromate-bromide reagent in acid medium, and the residual bromine is determined iodometrically.

Smith D. J\textsuperscript{4}, proved that a high performance liquid chromatographic analysis is described for chlorpromazine and some of its related compounds in tablet dosage forms and biological matrices using a dimethylsilane (RP-2) reversed-phase column packing and a mobile phase consisting of ammonium carbonate, acetonitrile, and water. The method will separate and quantitate mixtures of chlorpromazine sulfone, chlorpromazine sulfoxide, desmonomethylchlorpromazine sulfoxide, chlorpromazine, and desmonomethylchlorpromazine.

10. DESLORATADINE

D. K. Agrawal\textsuperscript{1} proved that Some have proposed a link between the pathophysiology of AR and the clinical manifestation of symptoms. Desloratadine, a new-generation antihistamine, has demonstrated anti-inflammatory effects \textit{in vitro}; indeed, desloratadine is capable of intervening at various points in the immune cascade. Although \textit{in vitro} results do not necessarily correlate with clinical efficacy, the anti-inflammatory properties of desloratadine may contribute to its efficacy in patients with AR, allergy-induced asthma, and other related allergic conditions. Antihistamines that
modulate in the immune system at various stages may optimize treatment of allergic disease.

E. W. Monroe proved that chronic urticaria is a common dermatologic condition that is diopathic in most cases. Antihistamines are the mainstays of treatment for this condition. The newer, second and third generation antihistamines are the preferred agents because of their improved safety profile and comparable efficacy to the first generation antihistamines. Desloratadine is a new non-sedating H1-receptor antagonist. Based on clinical studies, desloratadine is a valuable new addition to the available treatment options and should be considered as a first-line therapy for patients with chronic urticaria. Farkas appraised the clinical efficacy of desloratadine in patients with seasonal allergic rhinitis and rhinoconjunctivitis. PATIENTS AND METHODS: An open, two-week trial was conducted on 428 patients between 3 June and 31 July 2002 in 11 centres. Nasal obstruction, rhinorrhea, sneezing, and itching as well as ocular clinical signs were characterized using a symptom score. Desloratadine tablet was administered in 5 mg doses. After two weeks of treatment, the symptom score was re-evaluated. Potential adverse events that had occurred during the treatment period were recorded.
G. A. Rossi et al\textsuperscript{4}, proved that evidence of desloratadine syrup efficacy and tolerability in children with pollen-induced allergic rhinitis.

K. Blümchen et al\textsuperscript{5}, developed a study and the aim of this study was to investigate the effects of an H1R-antagonist on allergen-induced sensitization, airway inflammation (Al) and airway hyper-reactivity (AHR) in a murine model. Treatment with H1R-anatagonist prior to and during sensitization suppressed allergen-induced Th2 responses, as well as development of eosinophilic Al and AHR. This underscores an important immune modulating function of histamine, and implies a potential role of H1R-anatagonists in preventive strategies against allergic diseases.

L Juhlin\textsuperscript{6} developed that the effect of 5 mg desloratadine for 4 days was tested with ice-cubes before and after 4 days of treatment in 12 patients with cold urticaria. They had been asked not to take any antihistamine for at least 4 days. Desloratadine markedly inhibited the reactions to cold induced urticaria.

Sabbah, A\textsuperscript{7} developed that desloratadine, the active metabolite of loratadine, is a new antihistamine. Because of its anti allergy properties, desloratididine has an affinity for histamine receptors 25 to 100 times greater to those of the usual antihistamines, coupled with a capacity to inhibit the production of pro-inflammatory mediators. When evaluated in healthy
volunteers, the half life of desloratadine has been estimated at 27 hours, which is comparable with a night time length of action. Many clinical studies made with patients suffering with allergic rhinitis or chronic idiopathic urticaria have shown a rapid symptom reduction, lasting 24 hours after first taking.

Samir Gupta et al., assessed the potential for a pharmacokinetic/pharmacodynamic interaction between desloratadine and fluoxetine. This randomized, placebo-controlled, open-label study was conducted in 54 healthy volunteers. Subjects received 1 of 3 treatments: desloratadine 5 mg plus fluoxetine 20 mg, desloratadine 5 mg plus placebo, or fluoxetine 20 mg plus placebo. Serial electrocardiograms (ECGs) were performed at baseline and day 35.
REFERENCES:

1. **CEFADROXIL**


2. METHYLEDOPA


3. DOMPERIDONE


4. RABEPROZOLE


5. GATIFLOXACIN


6. TIZANIDINE


7. STILBESTROL


8. PROMETHAZINE


9. CHLORPROMAZINE


radioimmunoassay”, Research Article, Received: 6 June 1980; Accepted: 17 February 1981.


10. DESLORATADINE


2. E. W. Monroe, “MD Desloratadine for the Treatment of Chronic Urticaria”, Skin Therapy Letter • Editor: Dr. Stuart Maddin • Vol. 7 No. 8 • October 2002


