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VISION

To emerge as one of the premier pharmacy colleges in the country and produce pharmacy professional of global standards.

MISSION

• To deliver quality academic programs in Pharmacy and empower the students to meet industrial standards.

• To build student community with high ethical standards to undertake R&D in thrust areas of national and international standards.

• To extend viable outreach programs for the health care need of the society.

• To develop industry institute interaction and foster entrepreneurial spirit among the graduates

A PROSPECTIVE STUDY ON EFFECTS OF ACE INHIBITORS, ANGIOTENSIN II RECEPTOR ANTAGONISTS AND EPLERENONE ON RENAL OUTCOMES IN DIABETIC NEPHROPATHY

Priyanka S, Pharm D Internee

Objectives:

- To evaluate the effects of angiotensin converting enzyme(ACE) inhibitors and angiotensin II receptor antagonists(AIIRAs) and Eplerenone on renal outcomes in patients with diabetic nephropathy having serum creatinine not more than 3 mg/dl.
- To know the percentage of hyperkalemia in patients with diabetic nephropathy after taking ACE inhibitors, ARBs and Eplerenone.

Procedure:

In order to achieve the objectives of the study, 50 diabetic nephropathy patients were included. Serum creatinine, serum potassium and other details of the patient was collected and recorded in the data collection form. Serum creatinine and serum potassium levels of the patient before and after one month of follow-up was collected and statistically analysed.

Results:

A total of 50 diabetic nephropathy patients who were receiving ARBs, ACE inhibitors and Eplerenone on follow up with nephrology department were included. Among 50 patients, 42(84%) were male and 08(16%) were female. Among 50 patients, 15 patients fall in the age group of 51-60 years followed by 13 patients in the age group of 41-50 years, 13 patients in the age group of 61-70 years, 6 patients in the age group of 31-40 years, 2 patients in the age group of 71-80 years and 1 patient in the age group of 21-30 years. Among 50 diabetic nephropathy patients, 36 patients were given Telmisartan followed by 5 patients with ramipril, 4 with eplerenone, 2 with Telmisartan & ramipril, 2 with eplerenone & Telmisartan and 1 with Telmisartan, eplerenone & ramipril. The drugs included in this study were Angiotensin converting enzyme inhibitors (Ramipril), angiotensin II receptor blockers (Telmisartan) and Eplerenone. Among 50 patients, 36 patients were prescribed with Telmisartan (72%), 5 with ramipril (10%),4 with eplerenone (8%), 2 patients with both ramipril and Telmisartan (4%), 2 with both eplerenone and Telmisartan (4%) and 1 patient with combination of all the three drugs (2%).

The parameters like serum creatinine and serum potassium levels were obtained from the patients who were involved in this study and this data has been collected before initiation of the treatment and after (one month) the treatment. In this study the results of before and after one month of the treatment was considered because the results were more specific and clearer. The *p*-values for the collected data were calculated by using paired t-test ($p < 0.05$ is considered as significant). The *p*-values of serum creatinine and serum potassium for all the drugs were obtained using paired t-test. When paired t-test was used the *p*-value of serum potassium in Telmisartan was significant and serum creatinine before and after the treatment do not change. Similar to this study Jahnavi V Pathal et.al, documented that the Mean ± SD values of serum creatinine of first- and third-month data after starting ARBs do not change. The *p*-values of serum creatinine and serum potassium in ramipril were not significant. In contrast to this study Jahnavi V Pathal et.al, reported that the Mean ± SD values of the first- and third-month data of serum creatinine levels after starting ACE inhibitors noticeably increases. The *p*-values of serum potassium levels in eplerenone was significant and serum creatinine before and after the treatment do not change.

Eplerenone was prescribed to 4 patients and among them one patient came out with cutaneous side effects like maculopapular lesion on lower limbs, scaling over the trunk, scalp and extremities, itching. After Dermatology consultation it was diagnosed as Seborrheic Dermatitis since then the physician stopped to prescribe this drug. The *p*-values of serum creatinine and serum potassium in combination of all the drugs were significant.

Table 1: *p*-values of serum creatinine and serum potassium of all the drugs.

S.NO	DRUGS	PARAMETERS	*P*-VALUE
1.	Telmisartan	Serum creatinine	0.513
		Serum potassium	0.002
2.	Ramipril	Serum creatinine	0.586
		Serum potassium	0.160
3.	Eplerenone	Serum creatinine	0.444
		Serum potassium	0.024
4.	Combination of drugs	Serum creatinine	0.025
		Serum potassium	0.011

Conclusion:

Angiotensin Converting Enzyme Inhibitors, Angiotensin II Receptor Blockers and Eplerenone are more effective in terms of delaying the progression of diabetic nephropathy and also in providing renoprotection. Formal test of differences in Angiotensin Converting Enzyme Inhibitors, Angiotensin II Receptor Blockers and Eplerenone did not show much differences in risk of outcomes beyond those expected by chance. But, one of the major side effects associated with all these classes of drugs is Hyperkalemia. The increase in serum potassium levels occurred due to all these classes of drugs included in this study. There was a significant raise in both serum potassium and serum creatinine when these drugs were given in combination.

Hence, all the three classes of drugs can be safely prescribed but after starting the therapy the parameters like serum potassium and also serum creatinine must be closely monitored.

References:

1. Jahnavi V Pathak, Evrilla E Das: A retrospective study of the effects of angiotensin receptor blockers and angiotensin converting enzyme inhibitors in diabetic nephropathy.
2. C E Mogensen: Long term antihypertensive treatment inhibiting progression of diabetic nephropathy. *Br Med J* 285:685-688,1982

A CASE REPORT OF NEUROFIBROMATOSIS TYPE-2 (NF2)

K Thejaswini, Pharm D IV Yr

Introduction:

Neurofibromatosis type 2 is a rare disorder hall marked by the presence of bilateral vestibular schwannomas, also known as acoustic neuromas. These are benign (non cancerous) tumors that occur on the nerves for balance and hearing leading to inner ear. Neurofibromatosis is basically divided into 2 types. They are (NF.1), causes skin changes and deformed bones which starts in childhood.Type-2 causes hearing loss, ringing in the ear and poor balance often start at teen years and the last one schwannomatosis causes intense pain which was the rarest type.

Prevalence:

Neurofibromatosis is an autosomal dominant disease with usually a 50% risk of transmission from an affected individual to their offspring. This was first confirmed in 1930.NF2 is caused by mutations in the NF2 gene located in the long arm of chromosome number 22. 50-60% of patients has no family history and represents denovo mutations in NF2 gene. When using established clinical diagnostic criteria and based on mutations in the NF2 gene assessment of the frequency of NF2 in the population can be made. The incidence of NF2 was initially reported as 1:33-40,000 individuals in a 4 million population in England. Disease prevalence was somewhat lower at 1:200000.However, a recent update suggests that the incidence may be 1:25,000.Disease prevalence has now risen to around 1:60,000 due to earlier diagnosis and better survival due to improved treatment.

Case Report:

A case of 25 yrs old woman with balance disturbance towards left side, hearing loss and tinnitus for 2 1/2 years and blurring of vision, concomitant headache and deviation of neck since 4 to 5 months was presented. She was hospitalized 2 times because of the tumors of the brain and spinal cord and was admitted to the department of Neurosurgery in July 2019.At the time of admission to hospital, cerebral Magnetic Resonance Imaging {MRI} revealed the following, Multiple discrete well defined extra axial altered heterogeneous lesions measuring 3.5x2.7 cms noted in left cerebellopontine angle cistern which is causing compression of brain stem, displacing to right, causing compression of left cerebellum brain stem lesions is extending into left Internal auditory canal. This indicated respectively a left cerebellopontine angle schwannoma, bilateral meningomas S/0 NF2 and thrombosis superior to superior sagital sinus. Computed Tomography scan showed with impression as diffuse cerebral edema, bilateral CP angle schwannomas.

Discussion:

We here report the case of a patient with Atypical meningoma WHO grade -III Left parasagital type categorized by National Institute of Mental Health and Neurosciences(NIMHANS).The National Institute of Health Consensus committee has defined clinical criteria for NF2. According to diagnostic criteria, the patient has Bilateral Acoustic Schwannomas. Surgical therapy was performed for clinical improvement i.e., left frontal craniotomy and parasagital meningoma excision. Post operative CT scan revealed that as only one meningoma excised and left CP angle tumor is causing compression of brain stem and ventricle.

After the surgery, the patient present deficits in neurological examination and was discharged from hospital in general condition with few recommendations. Few months after the last operation, she exhibited weakness of all extremities, so they planned for Radiotherapy.

Conclusion:

The patient was diagnosed with schwannomatosis, recently established neurofibromatosis entity which may resemble NF2 clinically. Detailed history taken revealed that the patient's father was a diagnosed case of NF 2 that led to her father's death. This fact and the presence of an 8th nerve Schwannoma, multiple meningomas and enlarged choroid plexus fulfilled the criteria for Neurofibromatosis type.

VIBEGRON IS USED TO TREAT OVERACTIVE BLADDER IN ADULTS

N C Mounika, Pharm D IV Yr

Approved Date : 23-December-2020

Brand Name : GEMTESA

Generic Name :Vibegron

Manufacturing Company : Kyorin Pharmaceutical/Urovant Sciences

Dosage Forms and Strength: Tablet (75mg)

Molecular Formula : C26H28N4O3

Molecular Weight : 444.5 g/ml

Storage : Store at room temperature 20c to 25c

Mechanism of Action:

- ✓ Vibegron is a potent, selective beta-3 adrenergic receptor agonist.
- ✓ That relaxes the detrusor smooth muscle of the bladder.
- ✓ There by increasing bladder capacity.

Indications and Usage:

- GEMTESA is a beta-3 adrenergic agonist indicated for the treatment of overactive bladder (OAB) with symptoms of urge urinary incontinence, urgency, and urinary frequency in adults.

Dosage and Administration:

- The recommended dose is one 75mg tablet once daily.
- Swallow tablet whole with water.
- Tablet may be crushed and mixed with applesauce.

PHARMACOKINETICS:

Absorption:

- Peak plasma time: 1-3 hr.
- Steady state reached at 7 days.

Distribution:

- Volume of distribution: 6304 L
- Protein bound: 50%
- Blood to plasma ratio: 0.9

Metabolism:

- Metabolism plays a minor role in elimination of Vibegron.
- Predominantly metabolized by CYP3A4.

Elimination:

- Half life: 30.8 hr
- Excretion: Feces 54% unchanged
- Urine 19% unchanged.

Adverse Effects:

- Urinary tract infection (6.6%)
- Headache (4%)
- Bronchitis (2.9%)
- Nasopharyngitis (2.8%)
- Diarrhea (2.2%)
- Nausea (2.2%)
- Upper respiratory tract infections (2%)
- Dry mouth (<2%)
- Constipation (<2%)
- Residual urine volume increased (<2%)
- Urinary retention (<2%)
- Hot flush (<2%)

Departmental Activities December-2020:

No of Patients Screened	Drug Information Queries	Adverse Drug Reactions	Medication Errors	No of Prescriptions Audited
685	22	05	08	648

Covid Testing for Faculty and Students by NSS Unit in Association with Health Department, Govt of Andhra Pradesh

Campus Recruitment by Giyaan Pharma