SEVEN HILLS TIMES

www.shcptirupati.com

Venkatatramapuram, TIRUPATI

Volume – 3 Issue No – 3 | July - 2019

An Official Publication of Department of Pharmacy Practice
Seven Hills College of Pharmacy, Tirupati,
Andhra Pradesh.

In association with Sri Padmavathi Medical College for Women, Alipiri Road, Tirupati, Chittoor (Dist.,), Andhra Pradesh, India.
www.shcptirupati.com;shcpdic333@gmail.com
Phone : 7730084513, 7702484513

VISION

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

MISSION

M1: To deliver quality academic programs in Pharmacy and empower the students to meet industrial standards.

M2: To build student community with high ethical standards to undertake R&D in thurst areas of national and international standards.

M3: To extend viable outreach programs for the health care need of the society.

M4: To develop industry institute interaction and foster enterprenurial spirit among the graduates

Evaluating The Extra Outcomes In Adding Zoledronic Acid Yearly Infusion To Calcium Vitamin D Over Conventional Calcium Vitamin D Supplementation In Treating Osteoporosis

Dr. Robin George

AIM:

To evaluate the extra outcomes of adding Zoledronic acid yearly once infusion to Calcium and Vitamin D over the conventional Calcium Vitamin D supplementation in treating osteoporosis.

METHODOLOGY

A baseline BMD test was done and the T score was noted initially. Patients were randomized into two groups based on the use of yearly Zoledronic acid infusion along with conventional Calcium and Vitamin D therapy. The patients were followed for the duration of one year to evaluate the patient medication adherence and improvement in bone strength. The second BMD was taken after one year and the change in T score was noted to evaluate the additional benefits of Zoledronic acid regimen over the patients with only Calcium and Vitamin D.

RESULT

The intervention have transformed many patients from osteoporotic to ostiopenic, followed by osteopenic to risk and risk to normal categories. The mean difference for change in T-sore among Hip and Spine was observed as 0.6 and 0.5 respectively in those who treated with Zoledronic acid, only 0.4 and 0.4 was observed in those who treated without Zoleronic acid. This difference in the change in T-score among the two groups is showing the additional benefits of Zoledronic acid yearly once infusion along with Calcium and Vitamin D over the conventional management only with Calcium and Vitamin D.

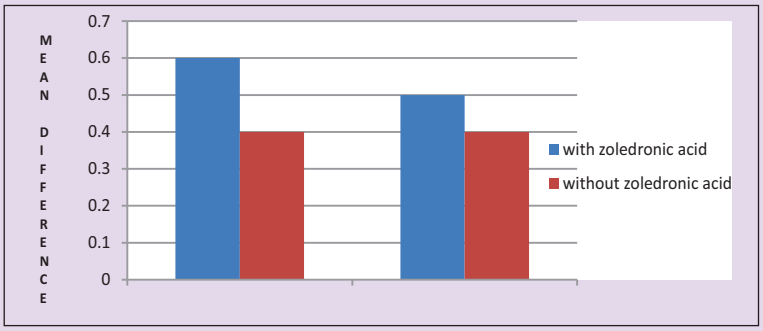
Table 1: Demographic details of the subjects

DEMOGRAPHIC CHARACETRISTICS		FREQUENCY	FREQUENCY %
AGE	15-35	0	0
	36-55	11	50
	56-75	8	36.3
	>76	3	13.6
GENDER	MALE	4	18.1
	FEMALE	18	81.9
BMI	<18.5	1	44
	18.5-24.9	11	50
	25-29.9	8	36
	>30	2	9

Table 2: Comparison of the mean difference in T-Score among both groups.

WITH ZOLEDRONIC ACID			WITHOUT ZOLEDRONIC ACID		
HIP			HIP		
Before	Mean (T-Score)	Mean diff (T-Score)	Before	Mean (T-Score)	Mean diff (T-Score)
	-2.2	0.6		-1.9	0.4
After	-1.6		After	-1.5	
SPINE			SPINE		
Before	Mean (T-Score)	Mean diff (T-Score)	Before	Mean (T-Score)	Mean diff (T-Score)
	-3.1	0.5		-1.8	0.4
After	-2.6		After	-1.4	

Figure 1: Comparison of the effectiveness of treatment group



CONCLUSION

The change in T score from the baseline score has shown the effectiveness of drug therapy. Moreover drug therapy with Zoledronic acid yearly once infusion was showing greater impact and additional benefits on improving the T score as well as bone strength of the patients compare to the patients received only Calcium and Vitamin D.

A Rare Case Report Of Levofloxacin Induced Hypoglycemia In A Tertiary Care Teaching Hospital, Tirupathi, Andhra Pradesh, India

Saranya.T, Heena Kauser.A, Pharm D

CASE STUDY

Diagnosed to be having community acquired pneumonia and started on injection Levofloxacin 500mg once daily along with gastric ulcer prophylaxis and was shifted to ward for further management.

On third day of admission, patient suddenly developed headache and became anxious, confused with tachycardia and tachypnoea. Immediately 100ml 25% dextrose was infused. Still patient had refractory hypoglycemia hence patient was transferred to MICU for further management.

In MICU patient received another 2 doses of 25% dextrose (100mL each) followed by infusion of the same at 30ml/hour. Suspected to be having Levofloxacin induced hypoglycemia, hence Levofloxacin was stopped. Blood glucose (128mg/dl) stabilized to normal on fourth day. Later patient was managed with azithromycin and shifted to ward and the patient was discharged from the hospital.

Table 1:Lab parameters

LAB PARAMETER	OBSERVED VALUE	NORMAL VALUE
Pulse rate	88 beats /min	60-100 beats/min
B.P	144/96mmHg	120/80 mmHg
Temperature	100 F	98.6 F
Sp02	94% on room air	95-100%on
Blood glucose	123 mg/dL	140 mg/dL
Haemoglobin	11.4gm/dL	14-16gm/dL
WBC	8700cells/cumm	10,000/cumm
Platelets	2.2lakhs/cumm	1.5-4.5
GRBS	59mg/dl	72-99

DISCUSSION

Levofloxacin is a broad spectrum antibiotic of the fluroquinolone group. It is used as a sole agent or in combination with other antibiotics in number of systemic bacterial infections (respiratory tract infection, urinary tract infection, cellulitis, prostatitis, tuberculosis and plague). Hypoglycemia is one of the rare side effects of Levofloxacin. It is usually seen within first 3 days of Levofloxacin therapy, but rarely seen even within 24 hours [2].

Exact frequency of hypoglycemia is not known, but in one study it is about 0.08% (0.55% in diabetics and 0.04% in non diabetics). The mechanism of hypoglycemia is thought to be related to release of insulin from the islet cells of pancreas [3, 4] by blocking ATP sensitive potassium channels. Among Fluroquinolones, gatifloxacin has the greatest inhibitory potential.

Risk factors for hypoglycemia include patients taking sulfonylureas, insulin and quinine simultaneously or having acute renal failure. The association between Levofloxacin and hypoglycemia can be evaluated using Naranjo's Probability Scale [5]. In our case, the score was +6 which signifies a probable association between Levofloxacin and hypoglycemia.

Treatment is just stopping of the Levofloxacin and simultaneous administration of dextrose. In one patient with refractory hypoglycemia a single dose of intravenous octreotide (50mcg) [6] was administered. Levofloxacin induced hypoglycemia is a rare but potentially treatable cause. Early diagnosis and treatment can reduce morbidity and mortality.

CONCLUSION

This case emphasizes the occurrence of hypoglycaemia consequently upon levofloxacin use, an adverse reaction that has been described with almost all members of the quinolone family of antibiotics. As compared to most of the previous reports, our case study illustrates that even patients without a history of diabetes or oral hypoglycemic agent use, can manifest this life-threatening side-effect. Taking into consideration the frequency of fluoroquinolones use in the hospital and ambulatory setting, clinicians should be cognizant of this potential adverse effect in non-diabetic patients treated with levofloxacin, and they should look out for symptoms of hypoglycaemia and monitor blood glucose levels more frequently, especially early in the course of therapy.

The association between Levofloxacin and hypoglycemia can be evaluated using Naranjo's Probability Scale [5]. In our case, the score was +6 which signifies a probable association between Levofloxacin and hypoglycemia.

Treatment is just stopping the Levofloxacin and simultaneous administration of dextrose. In one patient with refractory hypoglycemia a single dose of intravenous octreotide (50mcg) [6] was administered. Levofloxacin induced hypoglycemia is a rare but potentially treatable cause. Early diagnosis and treatment can reduce morbidity and mortality.

Drug Profile

Empagliflozin used together with diet and exercise to treat insufficiently controlled Type 2 Diabetes Mellitus in adults

K. Vasantha, Pharm D Intern

Approved Date	: August, 2014
Brand Name	: JARDIANCE
Generic name	: Empagliflozin
Manufacturing Company	: Boehringer Ingelheim Pharmaceuticals.
Dosage Forms and strengths	: Tablet, Film coated (10 mg, 25 mg)
Molecular Formula	: C23H27ClO7
Molecular Weight	: 450.91 g/mol
Storage	: Store at controlled at room temperature 20^{0}C to 25^{0}C

Indications and usage:

Indicated:

- As an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus.
- To reduce the risk of cardiovascular death in adult patients with type2 diabetes mellitus and established cardiovascular disease.

Limitations of Use:

- Not used for type 1 diabetes mellitus or diabetic ketoacidosis.

Dosage:

For Type 2 Diabetes:

- Recommended dose initially:10mg orally once daily, taken in the morning, with or without food.
- If well tolerated dose may be increased to 25mg once daily in patients who require additional glycaemia control.

Mechanism of action:

- Empagliflozin is a sodium-glucose co-transporter 2 (SGLT2) inhibitor.
- SGLT2 is predominant transporter responsible for reabsorption of glucose from the glomerular filtrate back into the circulation.
- By inhibiting SGLT2,empagliflozin reduces renal reabsorption of filtered glucose and lowers the renal threshold for glucose, and thereby increases urinary glucose excretion.

Contraindications:

- History of serious hypersensitivity reaction to JARDIANCE.
- Severe renal impairment, end-stage renal disease or dialysis.

Pregnancy and Lactation:

Not recommended during the second and third trimester of pregnancy and during lactation.

PHARMACOKINETICS:

Absorption:

- Peak plasma time : 1.5 hours
- Peak plasma concentration : 259 nmol/L (mg /day over days).

Distribution

Volume of Distribution :~73.8L

Protein bound : 86.2%

Metabolism : Primarily metabolized by Glucuronidation by UGT isoenzymes 2B7, 1A3, 1A8, 1A9 enzymes

Elimination

Half-life : 12.4 hours

Oral Clearance : Decreases with reduction in eGFR.

Excretion : feces (41.2%; mostly unchanged); Urine (54.4% ; mostly half of which was unchanged).

Total Body Clearance : 10.6 L per hour

Departmental Activities in July-2019:

Activities	Patient Counselling	Drug Information services	Adverse Drug Reactions	Medication Errors
Number	992	48	09	05

Perfect Clicks

Zoonosis Day Awareness Rally and Door to door awareness campaign by Seven Hills College of Pharmacy

Witnessing Chandrayaan II Launching

Free Mega Health Camp

Passport Awareness Workshop

Vanam Manam Plantation in College Premises