# SEVEN HILLS TIMES

**Volume 7** **Issue No 02** **February 2023**

An Official Publication of
***Department of Pharmacy Practice***
**Seven Hills College of Pharmacy**
(Autonomous)
Tirupati, Andhra Pradesh.
In association with
**Sri Padmavathi Medical College for Women**,
Alipiri Road, Tirupati, Chittoor (Dist.,),
Andhra Pradesh, India.
Contact Us:
pharmacypractice@shcptirupati.edu.in
Phone: 7730084513, 7702484513




## 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

## Study on Pharmacological Management of Hypocalcaemia in Patients after Total Thyroidectomy


**Dr S Sirisha**


### Introduction

Hypocalcaemia is the major postoperative complication after total thyroidectomy, causing potentially severe symptoms and increasing hospitalization time. The aim of the study is to assess the pharmacological management of hypocalcaemia in patients undergone total thyroidectomy.

### Methods:

50 patients who underwent total thyroidectomy were included in the study. The incidence of hypocalcaemia was analysed with serial calcium level estimation before and after the surgery. They are randomly divided in to 3 groups. Group 1 include elemental calcium 500mg every 6 hourly group 2 include calcium along with vitamin-D group 3 include calcium gluconate.

Hypocalcaemia is the major postoperative complication of total thyroidectomy. In this study we found 35 out of 50 patients are suffered with hypocalcaemia (70%) after total thyroidectomy. According to our study females(32patients) are more prone to hypocalcaemia than males (3patients), this statement was supported by many articles.

**Results:**

**Assessment of effectiveness of the Pharmacotherapy of hypocalcaemia in total thyroidectomy:**

The effectiveness pharmacological agents can be assessed after total thyroidectomy by measuring the serum calcium levels before treatment and after treatment with calcium supplements. By measuring the mean difference of calcium level we can conclude the effectiveness of pharmacological agents.

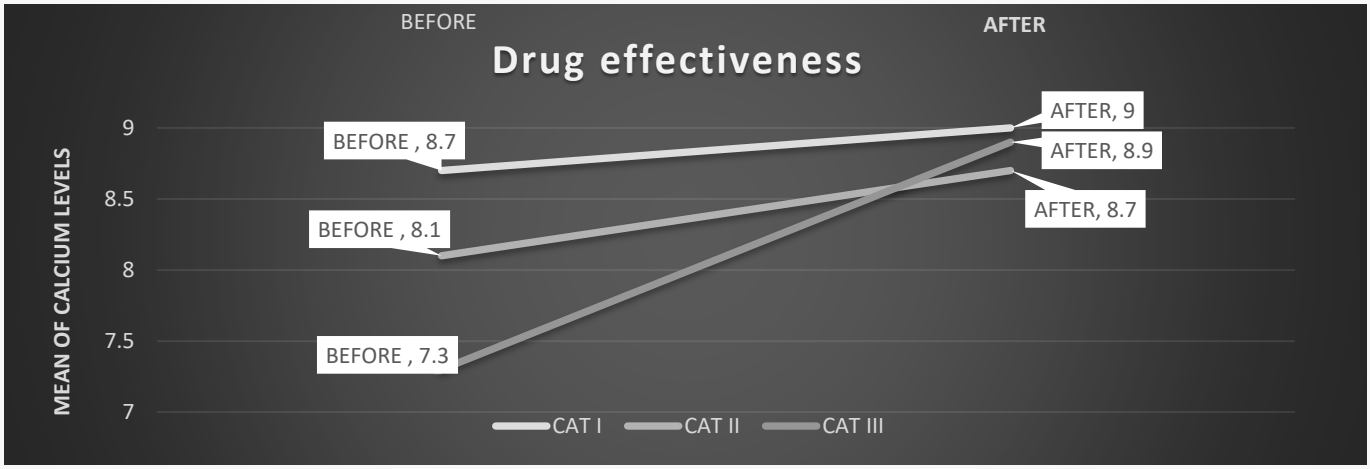


**Figure:** Improvement of Serum Calcium by Various Pharmacological Agents

**Assessment of ADRs Associated With Calcium Gluconate:**

Calcium gluconate iv is indicated for patients for the treatment of acute symptomatic hypocalcaemia. Calcium gluconate is a form of calcium combined with glucoronic acid. The following ADRs with the use of calcium gluconate are arrhythmias ,end organ damage, tissue necrosis, hypotension bradycardia and cardiac arrest. In our study we did not found any adverse events because of proper administration of the drug with titrable doses and regular patient monitoring under the guidance of the physicians and 24 hourly care taking nurse.Since the risk and prevalence of hypocalcaemia is more after total thyroidectomy and the risks associated with hypocalcaemia are complicated, the role of health care team in predicting and preventing the hypocalcaemia by prophylactic calcium supplementations and management of hypocalcaemia after total thyroidectomy are found relevant.

**Conclusion:**

Due to sedentary life style changes, food habits etc, thyroid disorders became one among the life style disorders. Total thyroidectomy is found to be the only refined surgical technique (because of reoccurrence of thyroid disorders are absent) that can completely manage some thyroid disorders like multi nodular goiter and grave disease etc. Preservation of parathyroid glands and RLN is essential to avoid the complication of hypocalcaemia in total thyroidectomy. Our study results suggest that post-operative oral calcium, vitamin D and inj.calcium gluconate are effective in the prophylaxis and management of hypocalcaemia after total thyroidectomy. This ultimately lead to improve the patient condition.

**Reference:** Alvaro Sanabria, Luis C. Dominguez, Valentin Vega,et.al :Routine postoperative administration of vitamin D and calcium after total thyroidectomy: a meta-analysis. International Journal of Surgery;9:2011; 46-51.

# CENTRAL VENOUS CATHETERIZATION INDUCED PNEUMOTHORAX
## A Case Report

**K Harini, Pharm D IV Year**

**Background:**

The placement of central venous catheter [CVC] has become a ubiquitous practice in intensive care unit [ICU].The use of CVC is often a necessity for the measurement of hemodynamic variables and the administration of fluids, medications ,blood products and parenteral nutrition in critically ill patients .However ,catheterization may occasionally be associated with complications such as pneumothorax , cardiac tamponade, sepsis and thrombosis. These complications may be life threatening, even when the procedure is performed under the most ideal circumstances.

**PNEUMOTHORAX:**

A pneumothorax is a collapsed lung .it occurs when air leaks into the space between lung and chest wall this air pushes on the outside of lung and makes it collapse. It can be caused by a blunt or penetrating chest injury, certain medical procedures, or damage from underlying lung disease. Pneumothorax can be further classified as Simple, Tension, Open.

Pneumothorax is one of the most frequent mechanical complications during central venous catheter [CVC] insertion. The likelihood of mechanical complications is largely determined by the 3 categories of factors:

PATIENT RELATED FACTORS:

- Uncooperative patients
- Previous operations, trauma or radiotherapy in the anatomic region of interest.

CATHETER RELATED FACTORS:

- Site chosen for CVC insertion
- Catheter type.

CLINICAL FACTORS:

- Previous catheterizations
- Emergency situations
- Experience of the physician inserting the CVC.

**Case Discussion:**

A 50-year-old female was admitted in medical ICU with chief complaints of chest pain radiating to back for the past 20 days associated with sweating, palpitations which is aggravated on walking. She was a known case of rheumatic heart disease [ MR] No history of fever and SOB. A scheduled angiography for the patient revealed the presence of coronary artery disease. The CVC is inserted for the angiography procedure [in subclavian vein] before 20 days back. the right subclavian vein insertion was punctured at the first attempt, and blood was freely aspirated from the vein before and after the insertion of the catheter. The CT chest reveals that presence of right tension pneumothorax and cardiomegaly with prominent main pulmonary artery, cystic and various bronchiectasis in right lower lobe posterior basal segments.

Her laboratory investigations show, platelets –2.7 lakh /cum, MCV –95ft [82-92ft], lymphocytes-9% [20-40%]. On primary survey, patient breath sounds were decreasing on right side, bilateral air entry was normal on 2nd day of hospital, 2D ECHO was scheduled for the patient reveals that EF – 60%, mild MR, grade 1 diastolic function. The patient received thrombolytics from outside of hospital. Primarily to flush out fluids tab. LASIX was given but his condition didn't performed &1500ml of clear fluid was drained into the right thorax tube. The pt. was planned for Antiplatelet therapy.

**Discussion:**

Many pharmaceuticals cause side effects but they can often be controlled and manageable. however side effects brought on by medical mechanical devices are often lead to fatal conditions.CVC carries appreciable morbidity, with pneumothorax being the most commonly encountered complication. Safety should increase clinicians understanding of patient condition and supportive therapy should be given besides with providing medical device.

**Conclusion:**

Central venous catheterization has become an increasingly common procedure in the care of critically ill patients. It can sometimes be associated with the immediate occurrence of acute complications during placement such as pneumothorax and artery puncture. Pneumothorax is a well-known complication of CVC using the jugular or subclavian approach.it can occur within days after central venous catheterization, and its diagnosis can sometimes be delayed.

---

## REZLIDHIA (OLUTASIDENIB) CAPSULE - A NEWLY APPROVED DRUG FOR THE TREATMENT OF ADULT PATIENTS WITH RELAPSED ACUTE MYELOID LEUKEMIA (AML)

**N Triveni Sanjana**, **Pharm D IV year**

**Brand Name** : REZLIDHIA .

**Generic Name** : OLUTASIDENIB .

**Molecular Formula** : $C_{18}H_{15}CIN_4O_2$ .

**Drug Class** : IDH 1 (Isocitrate Dehydrogenase-1 Inhibitors) .

**Manufacturing Company** : Forma Therapeutics,Us.

**Date Of Approval** : Dec 12,2022 .

**Dosage Form And Strength** :

Olutasidenib is available as hard Gelatine capsules for oral administration

**Capsules -** 150mg opaque white capsules imprinted with "OLU 150".

**Route of Administration:** Oral (capsules).

**Indication:**

Rezlidhia is indicated for the treatment of relapsed or refractory (AML) with a susceptible isocitrate dehydrogenase -1(IDH1) mutation as detected by an FDA approved test.

**Mechanism of Action:**

Olutasidenib acts as selective IDH1 inhibitor with affinity only towards the mutated enzyme.

Olutasidenib inhibits mutated IDH1 R132H, R132L, R132S, R132G and R132C proteins.

The inhibition of mutant IDH1 Olutasidenib reduces 2-HG levels,which promotes restoration of normal cellular differentiation and provides a therapeutic benefit .

**Pharmacokinetics:**

**Absorption:** Absorbed through oral, the bioavailability of rezlidhia after oral administration is 50 %.

**Distribution**: The plasma protein binding of Olutasidenib is approximately 93 %.

**Metabolism:** Olutasidenib is primarily (90%) metabolized by (CYP)3A4, with minor contributions from CYP2C8, CYP2C9.

**Elimination:** The half-life of rezlidhia is approx. 51.2%.75% of rezlidhia was recovered in feces,17% in the urine.

**Adverse Drug Reactions:**

- Fatigue/Malaise
- Pyrexia
- Edema
- Arthralgia
- Leucocytosis
- Abdominal pain
- Diarrhoea
- Mucositis
- Dyspnoea
- Cough

**Drug Interactions:**

Concomitant use of Rezlidhia with a strong CYP3A inducer decreases Olutasidenib Cmax and AUC which may reduce Rezlidhia efficacy.

**Reference:**https://www.drugs.com/newdrugs/fda-approves-rezlidhia-olutasidenib-relapsed-refractory-acute-myeloid-leukemia-susceptible-idh1-5935.html

## Departmental Activities February-2023:

| No of Patients Screened | Drug Information Queries | Adverse Drug Reactions | Medication Errors | No of Prescriptions Audited |
|---|---|---|---|---|
| 854 | 26 | 33 | 02 | 957 |

# Perfect Click


SHCP@ SACCP, Adichunchanagiri University, Karnataka and secured Best Oral & Poster Presentations (K M Jayasree & Mamatha respectively)


Cancer Day- 2023- Activities


Career Development Program by Mr Deepak Luthra


Personality Development Program

National Science Day - Activities