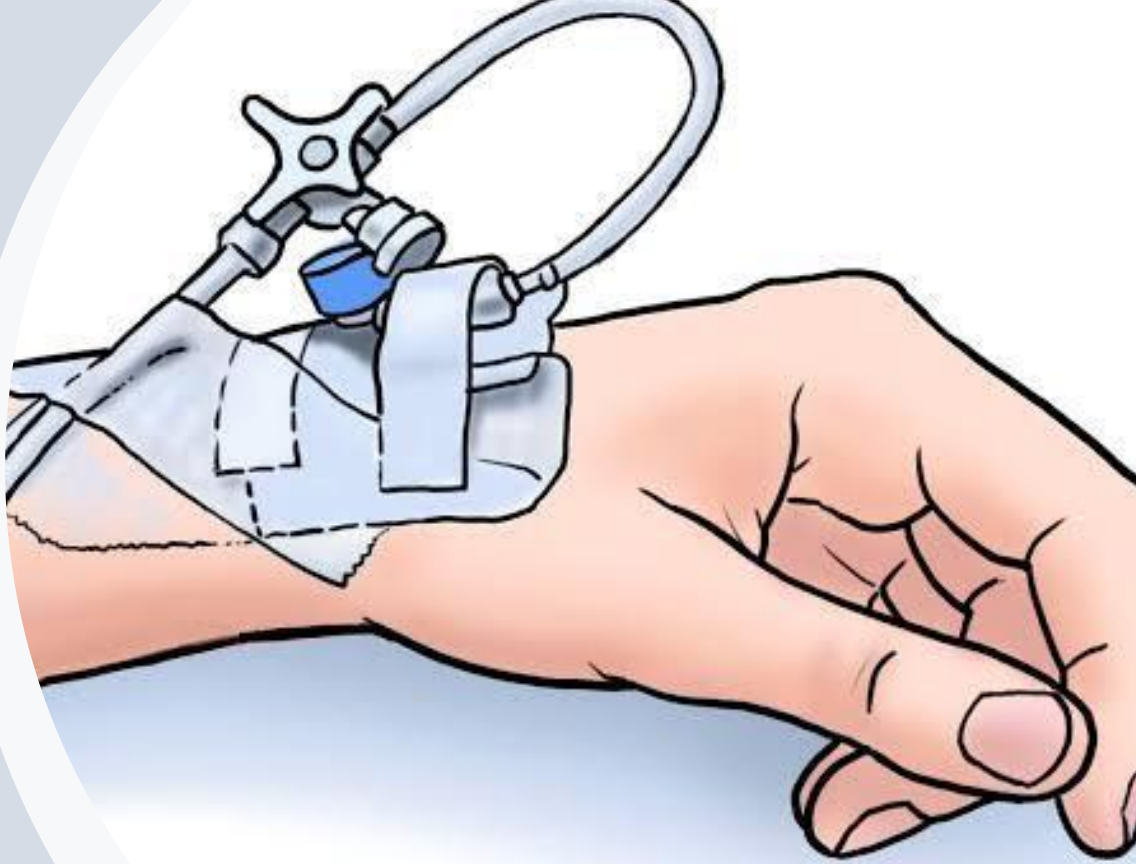
Clinical Audit on Thrombophlebitis



'To Assess the Incidence of Thrombophlebitis associated with the use of IV Drugs and through peripheral IV catheter and following catheter removal'

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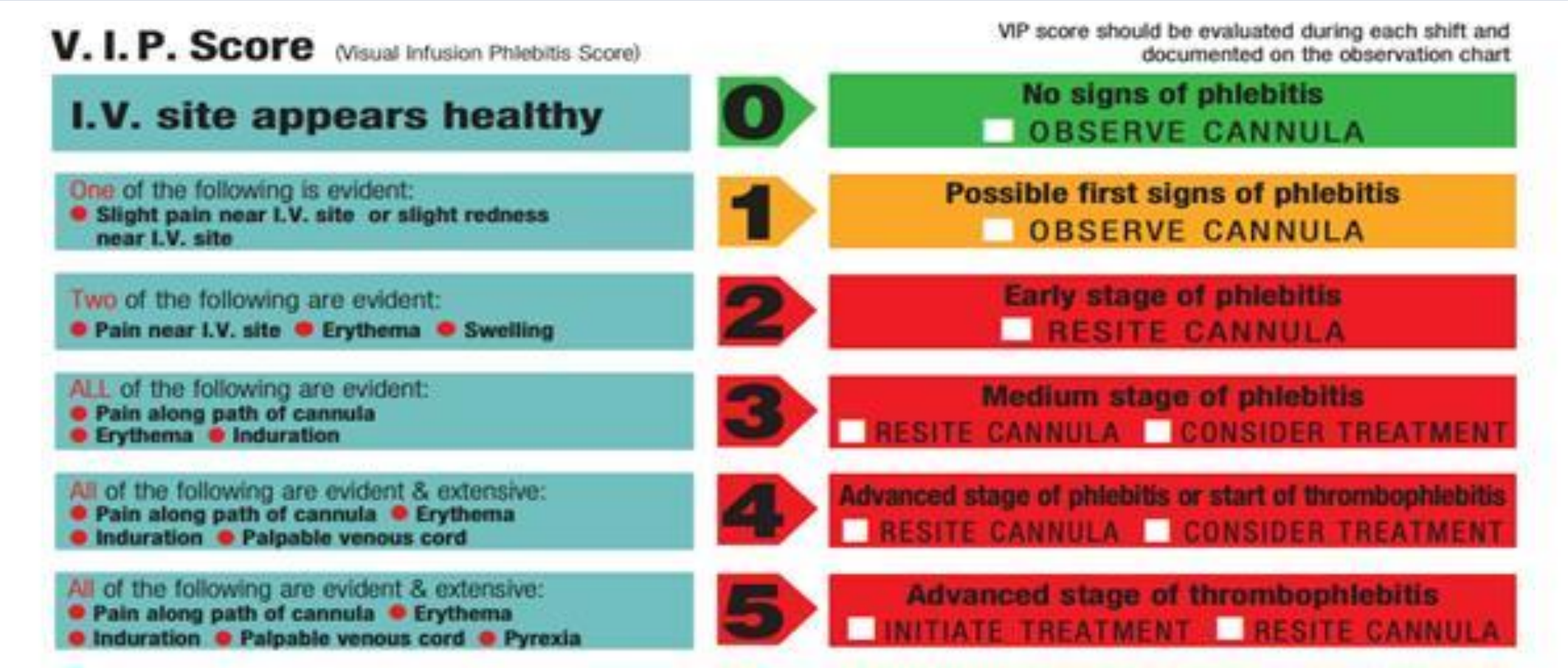
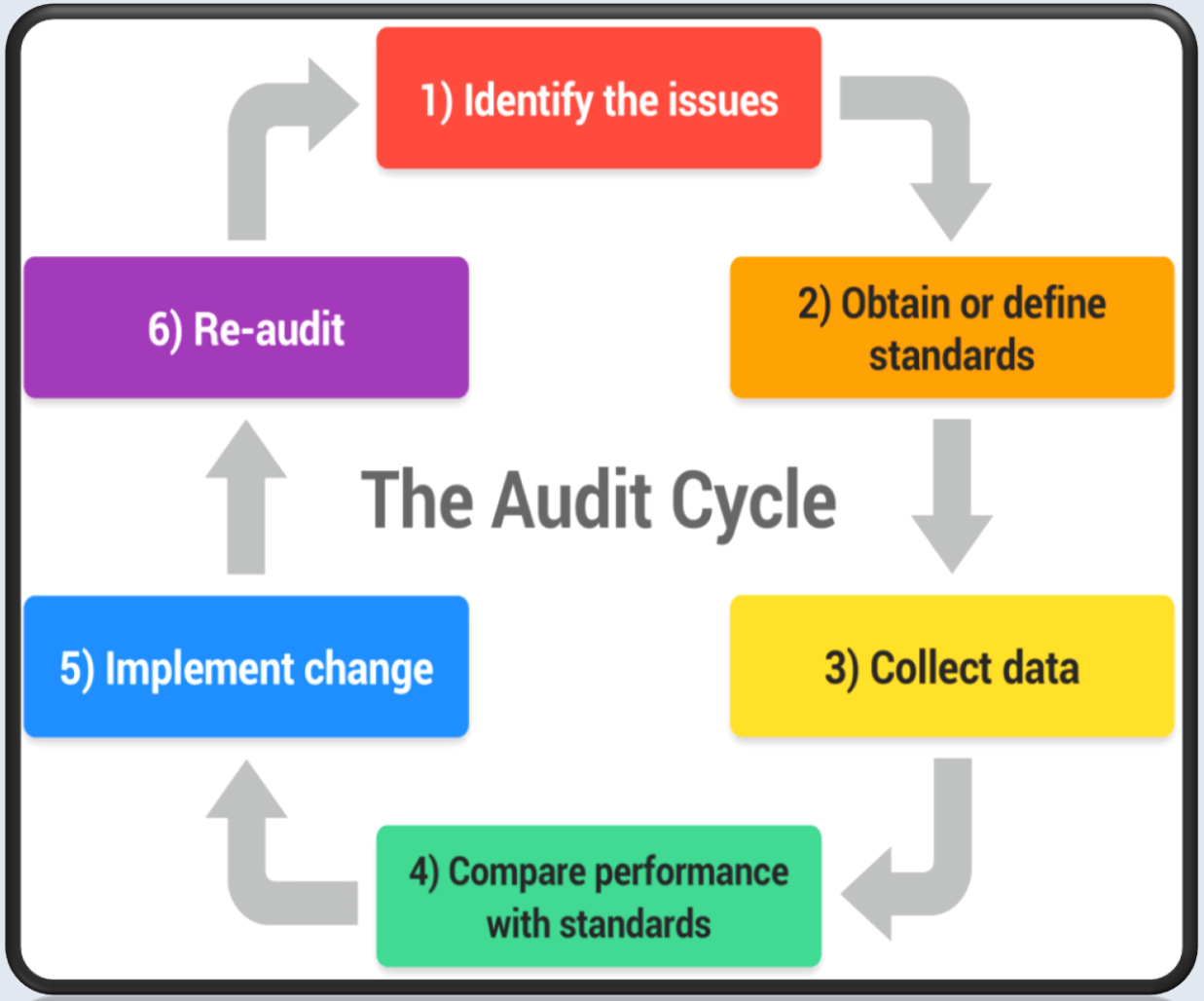


Thrombophlebitis is one of the cause of distress to patients. This condition can be associated with a extravasation of fluid/ medicine/ thrombus or infection as well, most clinical presentations are not complicated and consists of pain, redness in duration, the degree of the symptoms is variable, the incidence studies show it lies between 3% to 11%, however this incidence maybe under reported. Thrombophlebitis incidence can be minimize by following few preventive major, precautions and observation of certain procedure in ICU/ ward.

Clinical audit is a process that has been defined as a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of changes.



WHAT INSPIRED OUR STUDY

- **Peripheral IV cannulation is commonly performed for rapid and accurate administration of medications.**
- **Phlebitis is one of the commonest complications that develop after intravenous catheter application.**

RESEARCH QUESTION

- What is the Incidence rate of Thrombophlebitis in ICU and in Wards?

- What is the Root Cause of peripheral IV infusion related phlebitis?

OBJECTIVE

General Objective –

To Find and Asses the Incidence of Thrombophlebitis and compliance of measure taken in the hospital to prevent this condition.

AIM OF THE STUDY

To study and investigate the cause of incidence of phlebitis and to evaluate factors contributing to the development of Phlebitis.

STUDY TOOLS

- **VIP Score Sheet**
- **High concentration drugs audit checklist**
- **Thrombophlebitis documentation checklist**

AUDIT CRITERIA

It is an explicit statement that define what we are trying to measure.

RATE IF THROMBOPLEBITIS -

TOTAL NUMBER OF IDENTIFIED PHLEBITIS PATIENTS Through Peripheral IV Cannula *100

TOTAL NUMBER OF PATIENTS WITH PERIPERAL IV CANNULA

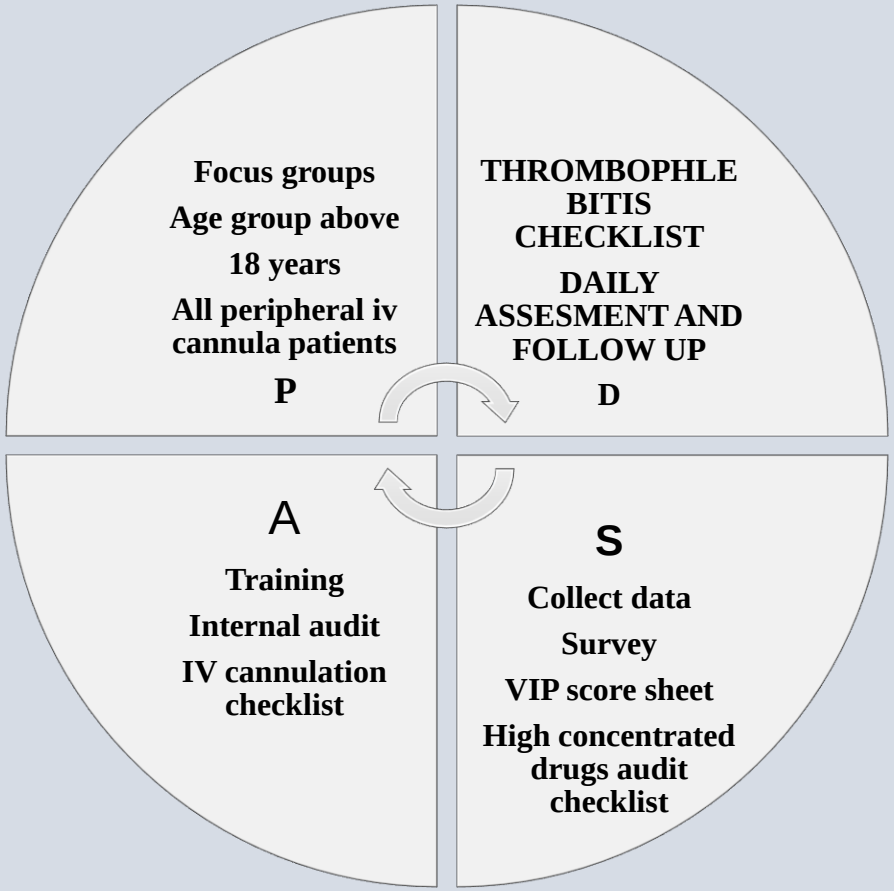
SCOPE

All the cases admitted in Medanta Super Specialty hospital who were Peripheral IV Cannula and developed Phlebitis (**1st April – 1st June 2022)**


Methodology

PROJECT GOAL -PDSA CYCLE

To find the root cause of Thrombophlebitis



P = Plan
D = Do
S = Study
A= Act

This study is a Prospective Observational Study in which we have covered sample size of 550 patients who are on high concentrated IV drugs through peripheral IV catheter and catheter removal.

This study was conducted for 2 months in Medanta Super Speciality Hospital ,Indore from 1 April 22-1 June 22 in which 550 patients were audited out of which 145 patients are having Phlebitis

Inclusion Criteria –
1.All the phlebitis notified Patients from ICU and wards are analysed and considered
2.Drug induced phlebitis has been included in audit
3. Post infusion phlebitis has been included in audit
4.All the Peripheral IV cannula patients were observed .

EXCLUSION CRITERIA –

1. **Initial dose of high concentrated drugs which has been started through central line has been excluded**
2. **Patients with history of allergy to intravenous cannula, or those unable to give consent were excluded from the study.**

On receiving list of patients who are on high concentrated drugs from IP Pharmacy.

IV cannulation charts of patient's are assessed on daily basis

Daily visit and assessment of patients who are under highly concentrated drugs (peripheral line – Inj Amiodarone, Dobutamine, KCL, NTG, Mannitol, 3 % NACL, Noradrenaline 25% Dextrose) and with other causes are monitored.

Categorization of PHLEBITIS done with help of VIP score checklist and data of Phlebitis event was documented in our checklist .

On assessment of data, results were obtained

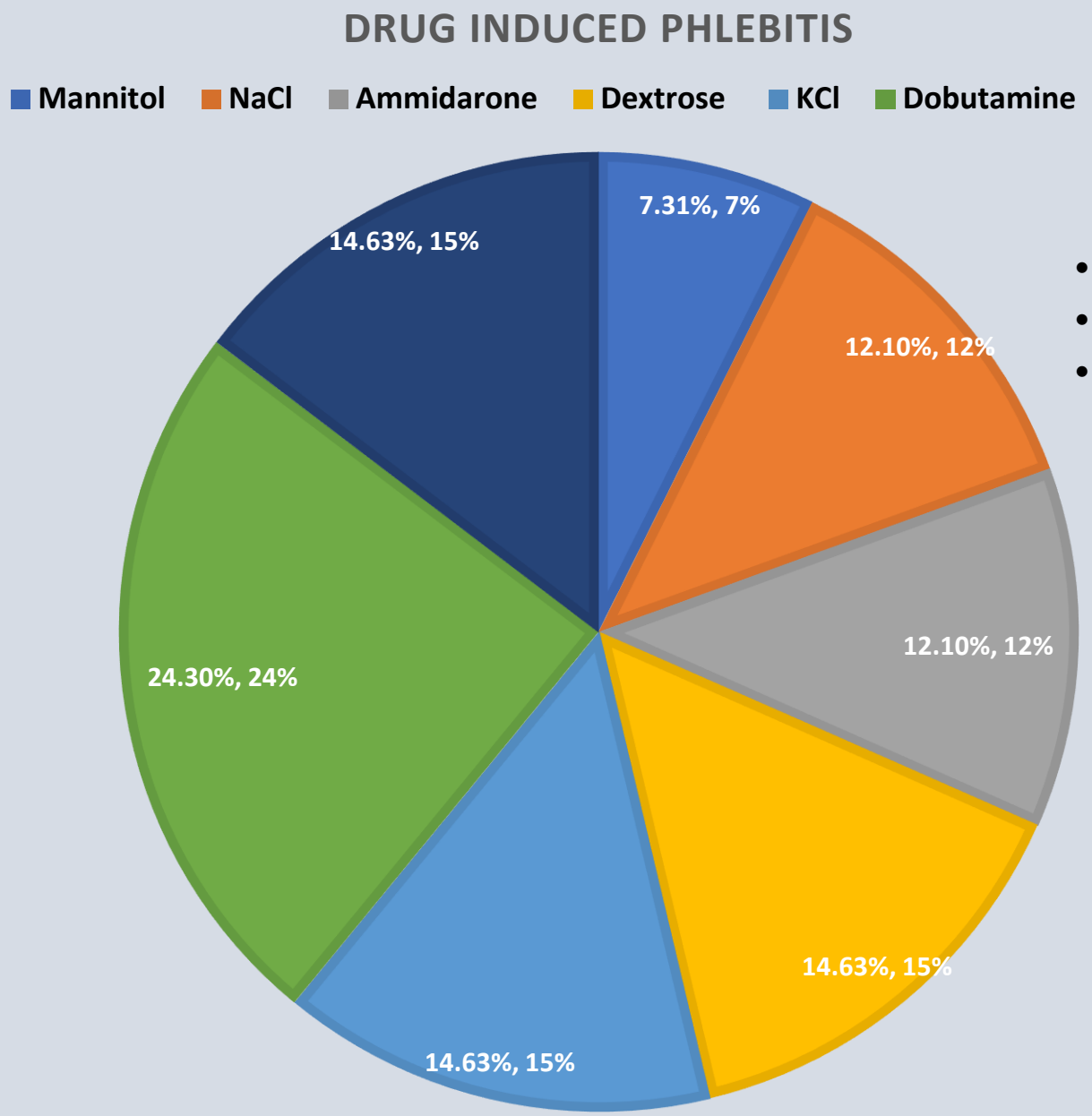
Further interventions were taken to reduce rate of Peripheral IV Cannula Phlebitis

Appropriate documentation of iv cannulation sheet was observed

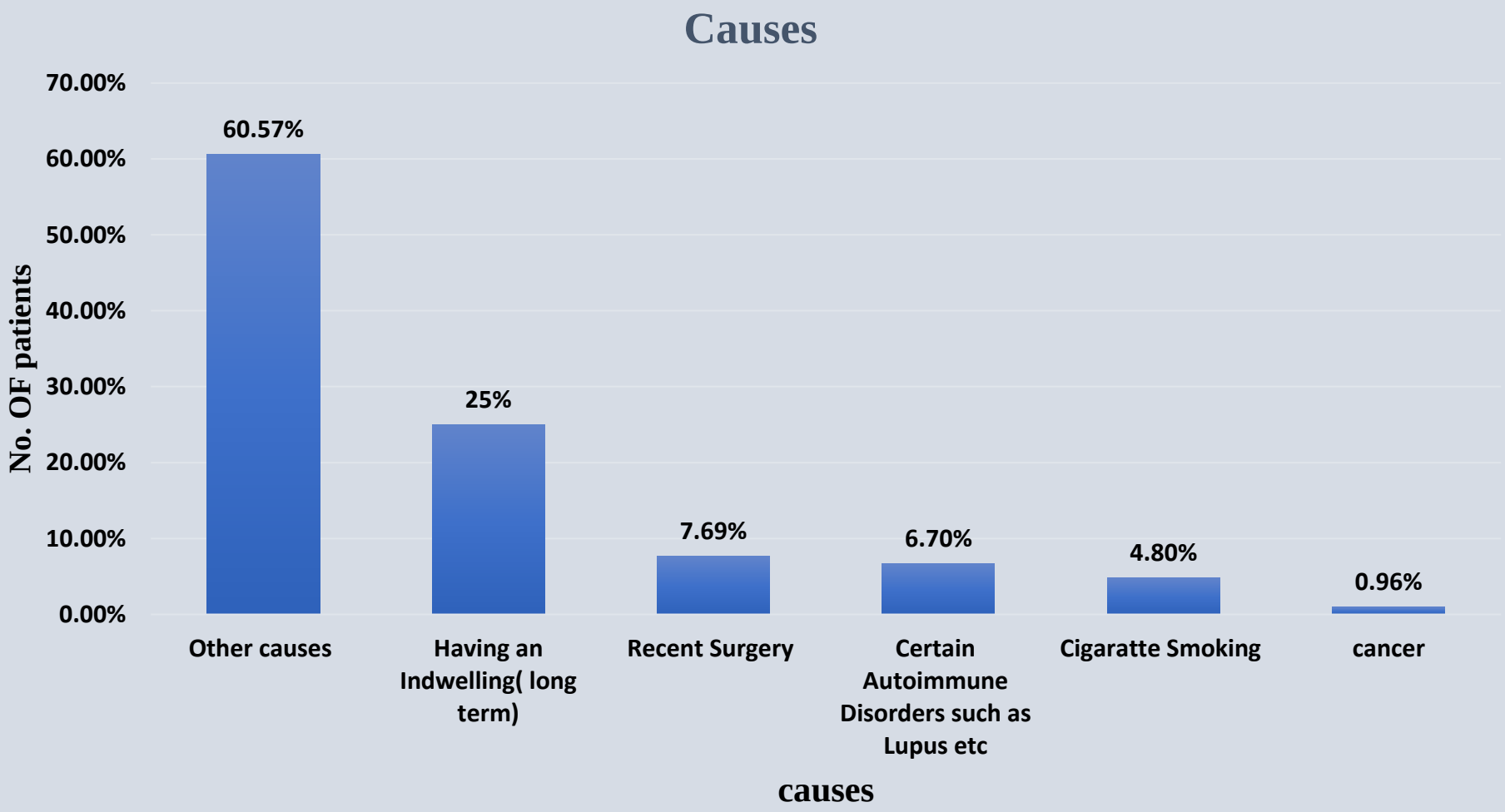
Filling the checklist for each patient from drug starting time to stopping time.

Analyzing the VIP score checklist and intervene accordingly .


RESEARCH
RESULTS
TODAY

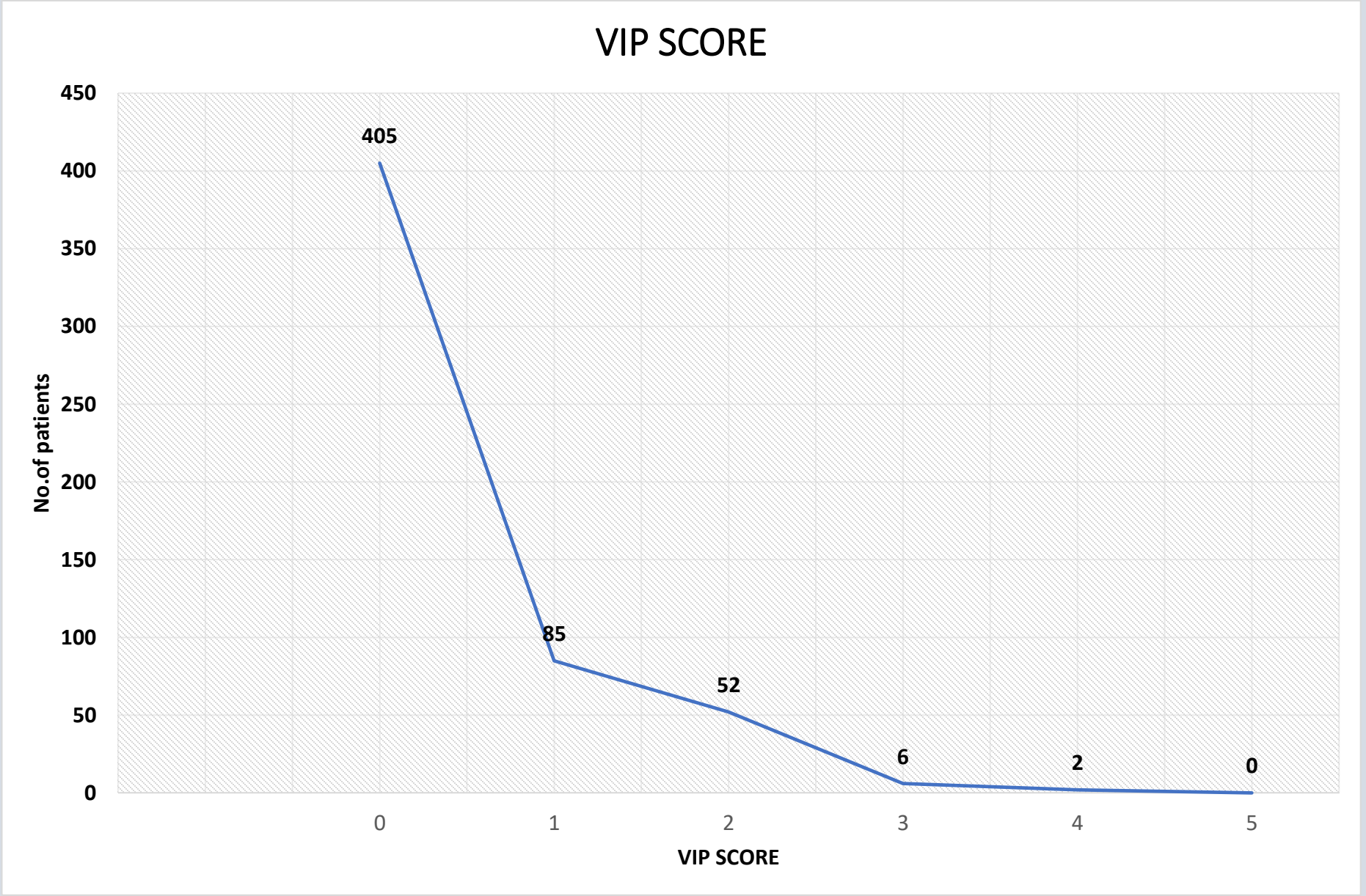


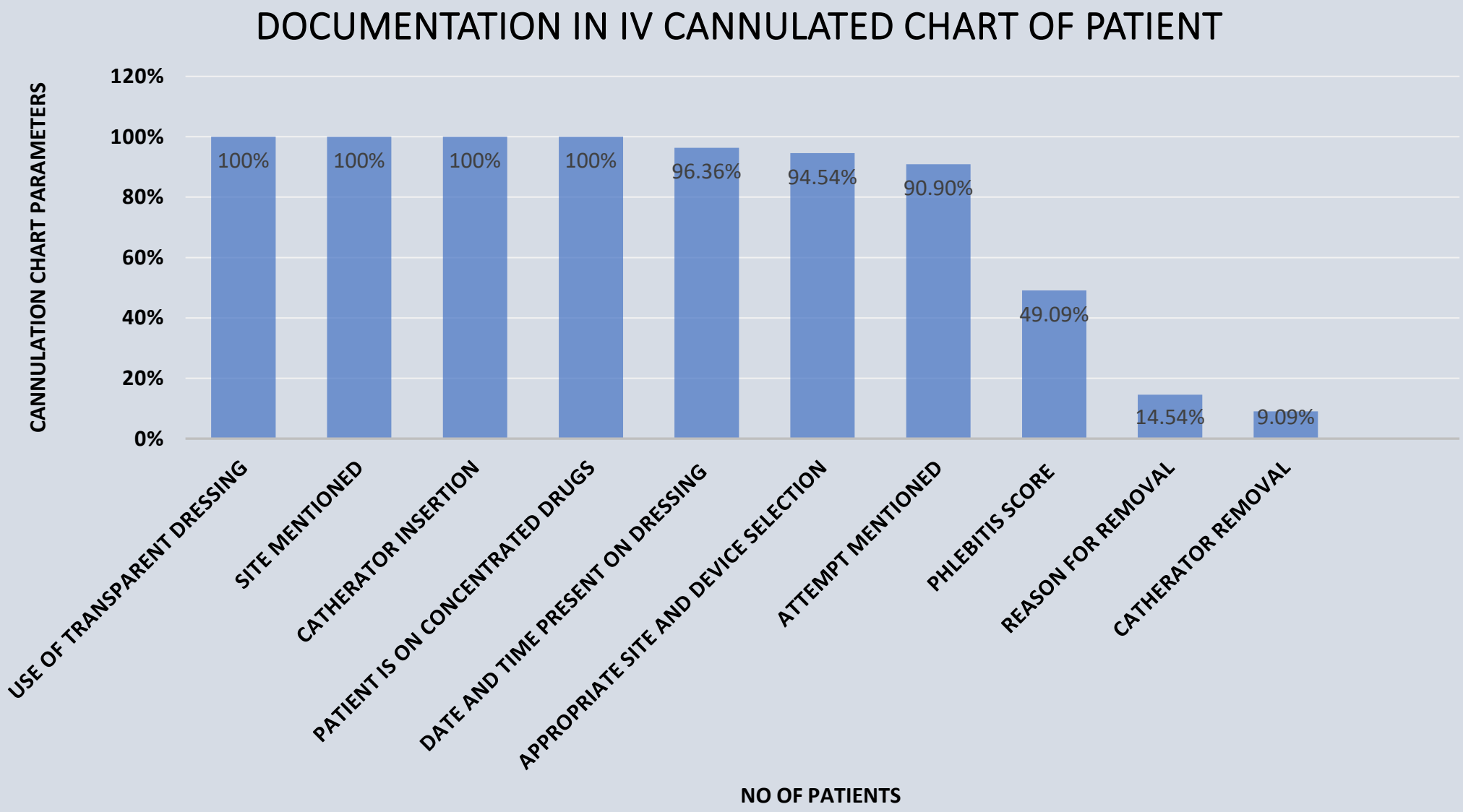
- Sample Size =550
- 145 phlebitis patients
- 41 patients were drug induced i.e. 28.27% patients are drug induced.



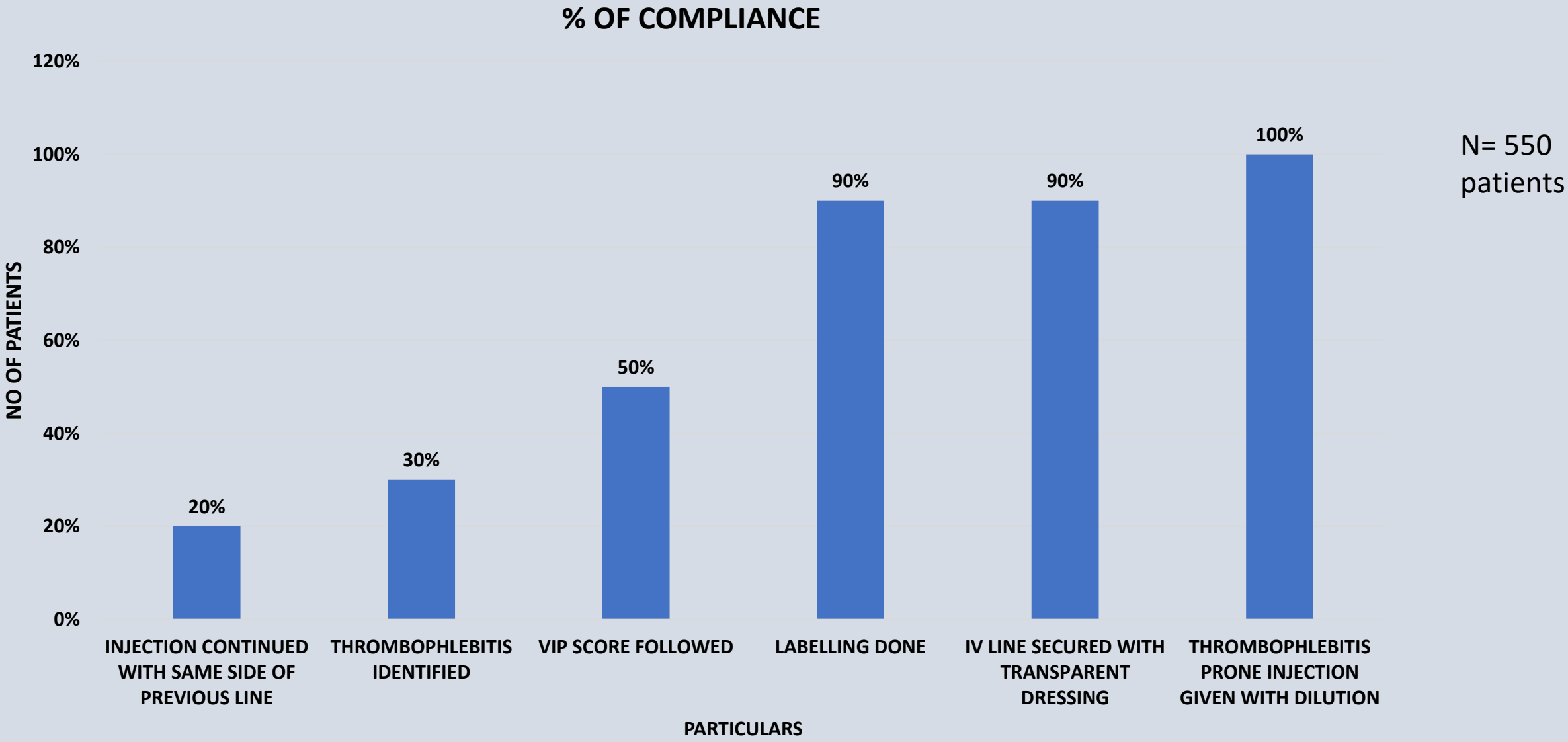
- Sample Size=550
- 145 Phlebitis Patients out of which 104 patients with different causes have IV peripheral cannula phlebitis i.e. other drug induced, i.e. 71.72%

N= 550 patients were Audited





N=550 Patients were audited



N= 550 patients

- The study shows that the incidence of phlebitis caused by above mentioned drug induced are 28.27% and from other causes are 71.72% similarly Phlebitis caused.

- Most of the high concentrated drugs initial doses are administered through small Gauge peripheral lines.

- Changing of the peripheral line to External Juglar vein, bigger and large IV cannula is being done after observing the signs and symptoms of phlebitis.

- Two or more high concentrated drugs are in continuous flow at same time through same peripheral lines.

- SOP has to be prepared for selection of the lines for infusing high concentrated drugs based on the osmolality .

- Training should be provided for proper site selection to insert peripheral iv cannula to nursing staff and duty doctors.

- Training should be provided every month regarding VIP score to nursing staff and duty doctors through proper IEC of Thrombophlebitis.

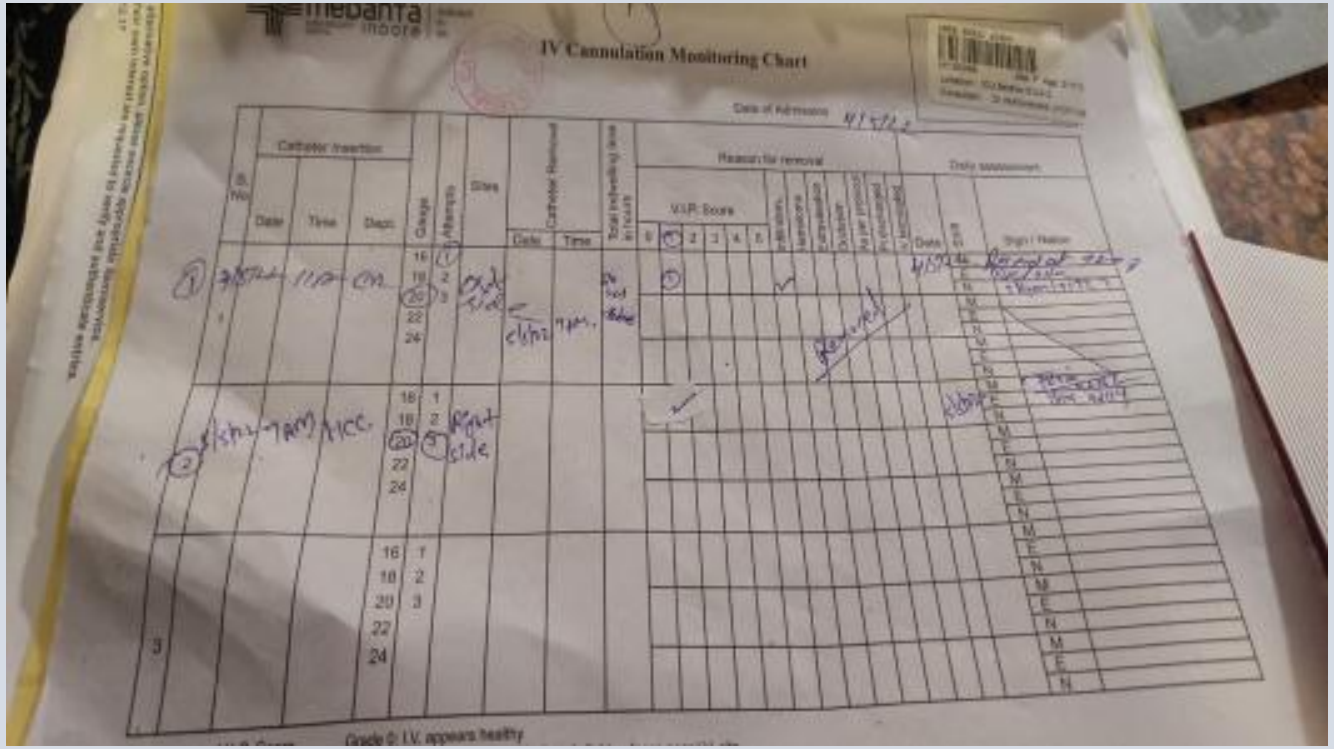
- Proper documentation of drug induced peripheral iv cannula phlebitis should be made .

- If priked one or two times and pain occurs or any other symptom related phlebitis occurs then expert staff should handle the patient in that case .

- Proper training sessions of staff regarding drug induced phlebitis through peripheral iv cannula should be held from timely

- Patients attendees should be educated regarding phlebitis .

- Proper monitoring and evaluation should be done of drug induced peripheral IV cannula patients timely .

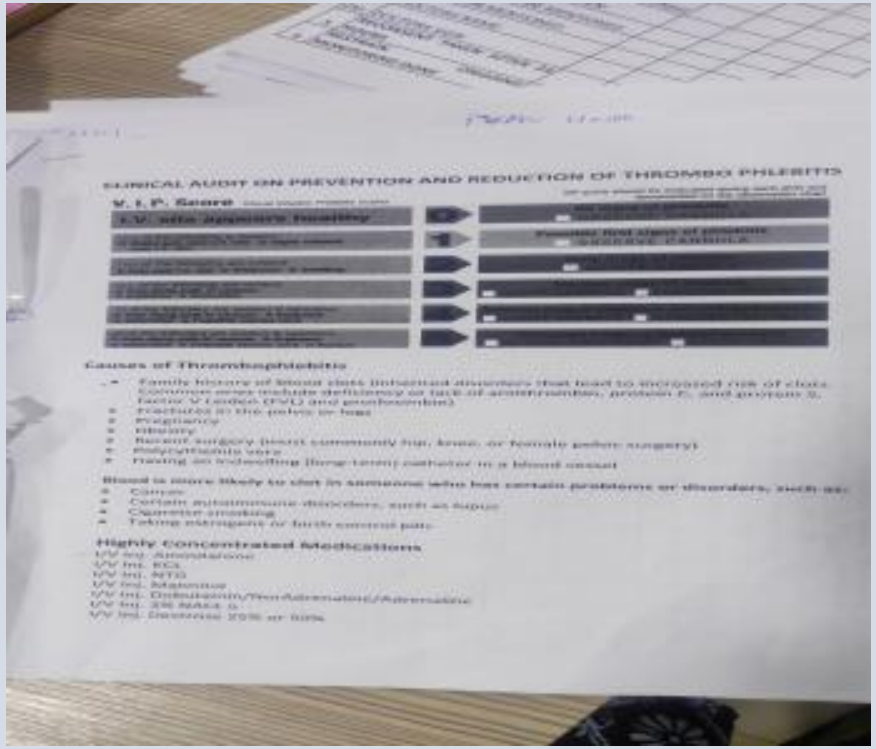

IV Cannulation Monitoring Chart

Date of Admission

Catheter Insertion | Catheter Removed | Reason for removal | Daily Assessment

Sl. No | Date | Time | Days | Gauge | Attempts | Site | Date | Time | Total indwelling time in hours | V.I.P. Score | Phlebitis | Infiltration | Occlusion | Dislodged | Pt. complained pain | Accidental | Date | Sign / Status

Grade 0: I.V. appears healthy


CLINICAL AUDIT ON PREVENTION AND REDUCTION OF THROMBO PHLEBITIS

V. I. P. Score

I.V. site appears healthy

Causes of Thrombophlebitis

- Family history of blood clots (inherited disorders that lead to increased risk of clots. Common ones include deficiency or lack of antithrombin, protein C, and protein S, factor V Leiden (FVL) and prothrombin)
- Fractures in the pelvis or legs
- Pregnancy
- Obesity
- Recent surgery (most commonly hip, knee, or female pelvic surgery)
- Polycythemia vera
- Having an indwelling (long-term) catheter in a blood vessel

Blood is more likely to clot in someone who has certain problems or disorders, such as:

- Cancer
- Certain autoimmune disorders, such as lupus
- Cigarette smoking
- Taking estrogens or birth control pills

Highly Concentrated Medications

IV inj. Amiodarone
IV inj. KCL
IV inj. NTG
IV inj. Magnesium
IV inj. Dobutamine/Noradrenaline/Adrenaline
IV inj. 3% NaCl
IV inj. Dextrose 20% or more


Drug Induced Thrombophlebitis Data Analysis Method

Baby Shyamla Chopda 201

REFERENCES

- Phlebitis-related peripheral venous catheterization and the associated risk factors Atay S, Sen S, Cukurlu D - Niger J Clin Pract. (n.d.). Nigerian Journal of Clinical Practice : Free full text articles from Niger J Clin Pract. https://www.njcponline.com/article.asp?issn=1119-3077;year=2018;volume=21;issue=7;spage=827;epage=831;aulast=Atay

- (n.d.). Centres for Disease Control and Prevention. https://www.cdc.gov/hai/pdfs/bsi-guidelines-2011.pdf

- Incidence of peripheral intravenous catheter phlebitis and its associated factors among patients admitted to University of Gondar hospital, Northwest Ethiopia: a prospective, observational study - Thrombosis Journal. (n.d.). BioMed Central. https://thrombosisjournal.biomedcentral.com/articles/10.1186/s12959-021-00301-x#:~:text=Phlebitis,%20inflammation%20of%20tunica%20intima,is%20recognized%20complication%20of%20phlebitis.

- Thrombophlebitis - Diagnosis and treatment - Mayo Clinic. (2021, December 29). Mayo Clinic - Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/thrombophlebitis/diagnosis-treatment/drc-20354613


Thank
you