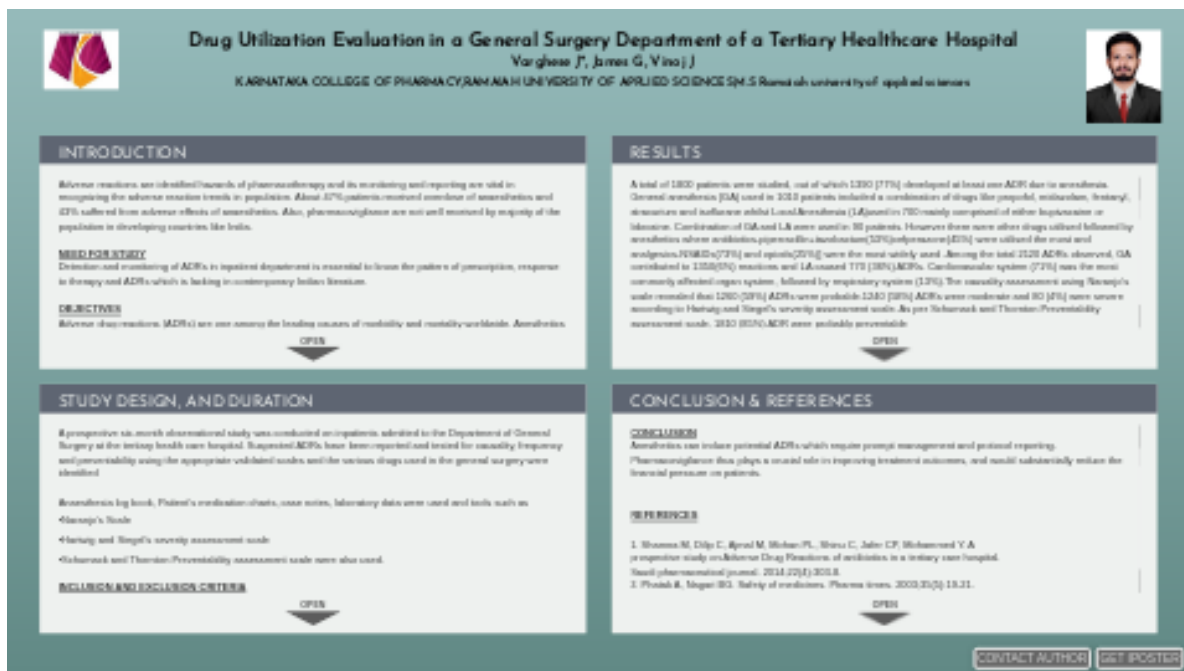


# Drug Utilization Evaluation in a General Surgery Department of a Tertiary Healthcare Hospital



**Drug Utilization Evaluation in a General Surgery Department of a Tertiary Healthcare Hospital**  
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**INTRODUCTION**  
Adverse reactions are identified/towards of pharmacotherapy and its monitoring and reporting are vital in recognizing the adverse reaction trends in population. About 12% patients reported occurrence of an adverse reaction and 12% suffered from adverse effects of medications. Also, pharmacovigilance are not well monitored by majority of the population in developing countries like India.

**NEED FOR STUDY**  
Detection and monitoring of ADRs is important dependent is essential to assess the pattern of prescription, response to therapy and ADRs which is lacking in contemporary Indian literature.

**OBJECTIVES**  
Adverse drug reactions (ADRs) are one among the leading causes of morbidity and mortality worldwide. Identification

**RESULTS**  
A total of 1800 patients were studied, out of which 1200 (77%) developed at least one ADR due to an adverse reaction. General anesthesia (GA) used in 300 patients included a combination of drugs like propofol, midazolam, fentanyl, atracurium and succinylcholine. Local anesthesia (LA) used in 700 patients included a combination of either lignocaine or bupivacaine. Combination of GA and LA were used in 80 patients. However there were other drugs utilized followed by anesthesia where acetaminophen, paracetamol, ibuprofen, NSAIDs, opioids, etc. were utilized the most and analgesics, PPIs, etc. were the most widely used. Among the total 1200 ADRs observed, GA contributed to 1200 (100%) reactions and LA caused 170 (14%) ADRs. Cardiovascular system (77%) was the most commonly affected organ system, followed by respiratory system (13%). The severity assessment using Rappaport's scale revealed that 1200 (100%) ADRs were probable, 1200 (100%) ADRs were moderate and 80 (7%) were severe according to Hartwig and Siegel's severity assessment scale. As per Schumacher and Thorpe's Percentability assessment scale, 1200 (100%) ADRs were probably preventable.

**STUDY DESIGN, AND DURATION**  
A prospective six-month observational study was conducted on inpatients admitted to the Department of General Surgery at the tertiary health care hospital. Reported ADRs have been reported and listed for causality, frequency and percentability using the appropriate validated scales and the various drugs used in the general surgery were identified.

**CONCLUSION AND RECOMMENDATIONS**  
Adverse reactions can induce potential ADRs which require prompt management and prompt reporting. Pharmacovigilance thus plays a crucial role in improving treatment outcomes, and could substantially reduce the financial pressure on patients.

**CONCLUSION & REFERENCES**  
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## INTRODUCTION

Adverse reactions are identified hazards of pharmacotherapy and its monitoring and reporting are vital in recognizing the adverse reaction trends in population. About 47% patients received overdose of anaesthetics and 43% suffered from adverse effects of anaesthetics. Also, pharmacovigilance are not well received by majority of the population in developing countries like India.

### **NEED FOR STUDY**

Detection and monitoring of ADRs in inpatient department is essential to know the pattern of prescription, response to therapy and ADRs which is lacking in contemporary Indian literature.

### **OBJECTIVES**

Adverse drug reactions (ADRs) are one among the leading causes of morbidity and mortality worldwide. Anesthetics may cause a large number of possible ADRs that require continuous monitoring. The objective of the analysis was to identify , evaluate the utilisation of the the various drugs used in the general surgery department and record suspected anesthetic-related ADRs

## STUDY DESIGN, AND DURATION

A prospective six-month observational study was conducted on inpatients admitted to the Department of General Surgery at the tertiary health care hospital. Suspected ADRs have been reported and tested for causality, frequency and preventability using the appropriate validated scales and the various drugs used in the general surgery were identified

Anaesthesia log book, Patient's medication charts, case notes, laboratory data were used and tools such as

- Naranjo's Scale
- Hartwig and Siegel's severity assessment scale
- Schumack and Thornton Preventability assessment scale were also used.

### **INCLUSION AND EXCLUSION CRITERIA**

#### •INCLUSION CRITERIA:

Inpatients of either sex aged 18 years and above who were administered with at least one anaesthetic drug

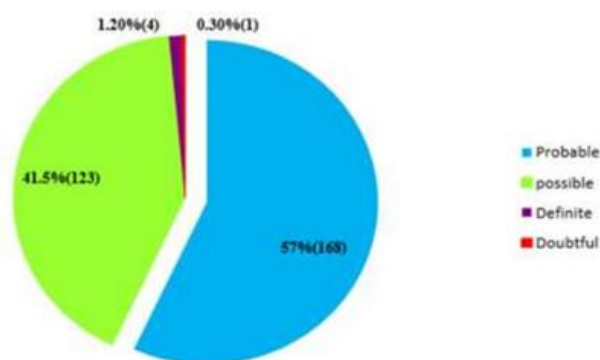
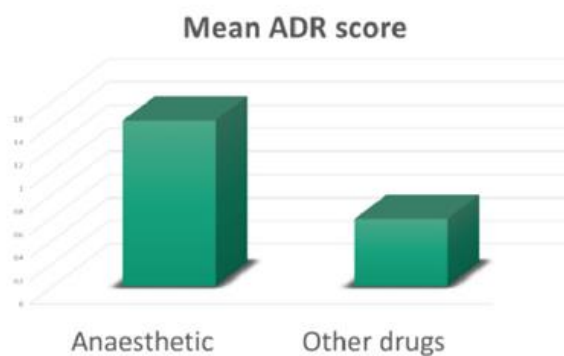
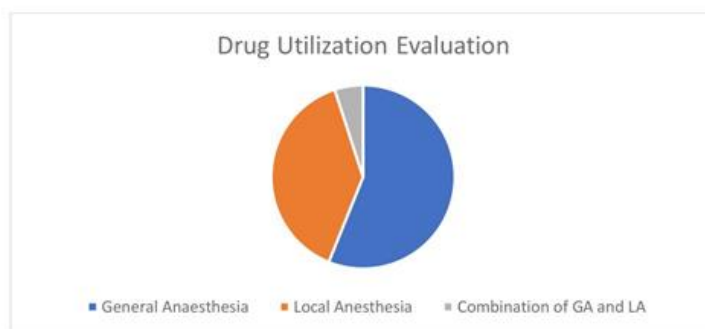
#### •EXCLUSION CRITERIA

Terminally ill & Emergency patients

## RESULTS

A total of 1800 patients were studied, out of which 1390 (77%) developed at least one ADR due to anesthesia. General anesthesia (GA) used in 1010 patients included a combination of drugs like propofol, midazolam, fentanyl, atracurium and isoflurane whilst Local Anesthesia (LA) used in 700 mainly comprised of either bupivacaine or lidocaine. Combination of GA and LA were used in 90 patients. However there were other drugs utilised followed by anesthetics where antibiotics- piperacillin+tazobactam(53%)cefperazone(45%) were utilised the most and analgesics-NSAIDs(73%) and opioids(25%) were the most widely used. Among the total 2120 ADRs observed, GA contributed to 1350(6%) reactions and LA caused 770 (36%) ADRs. Cardiovascular system (71%) was the most commonly affected organ system, followed by respiratory system (13%). The causality assessment using Naranjo's scale revealed that 1260 (59%) ADRs were probable. 1240 (58%) ADRs were moderate and

80 (4%) were severe according to Hartwig and Siegel's severity assessment scale. As per Schumack and Thornton Preventability assessment scale, 1810 (85%) ADR were probably preventable



# CONCLUSION & REFERENCES

## CONCLUSION

Anesthetics can induce potential ADRs which require prompt management and protocol reporting. Pharmacovigilance thus plays a crucial role in improving treatment outcomes, and would substantially reduce the financial pressure on patients.

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