

INTRODUCTION

The door-to-balloon (D2B) refers to the time interval counting from the arrival of a patient with STEMI at a hospital to the time of the balloon inflation (or stent deployment) that reopens the occluded artery. The purpose of the quality improvement project is to evaluate the causes of delay for patients with acute ST-segment elevation myocardial infarction (STEMI) requiring primary percutaneous coronary intervention (PCI) upon arrival at the emergency department (ED) and implement recommendations to reduce delays and analyze the impact of recommendations to reduce the door-to-balloon time.

OBJECTIVES

General Objective - To study the average time taken in door to balloon procedure and reasons of delays in it at Max Hospital, Saket.

Specific Objective –

- 1) To evaluate the average time taken in door to ballooning procedure.
- 2) To identify In-hospital factors that cause delay in achieving the target.
- 3) To give recommendations for further improvement in the door to balloon time procedure.

RESEARCH METHADODOLOGY

Type of study : descriptive study (retrospective for 7 months and prospective for 2 months)

Study population :STEMI patients at Max Super Speciality Hospital, Saket, Delhi

Study area– emergency department and catheterisation laboratories Max Super Speciality Hospital, Saket, Delhi

Duration of Study– 3 weeks

Type of Data- Quantitative

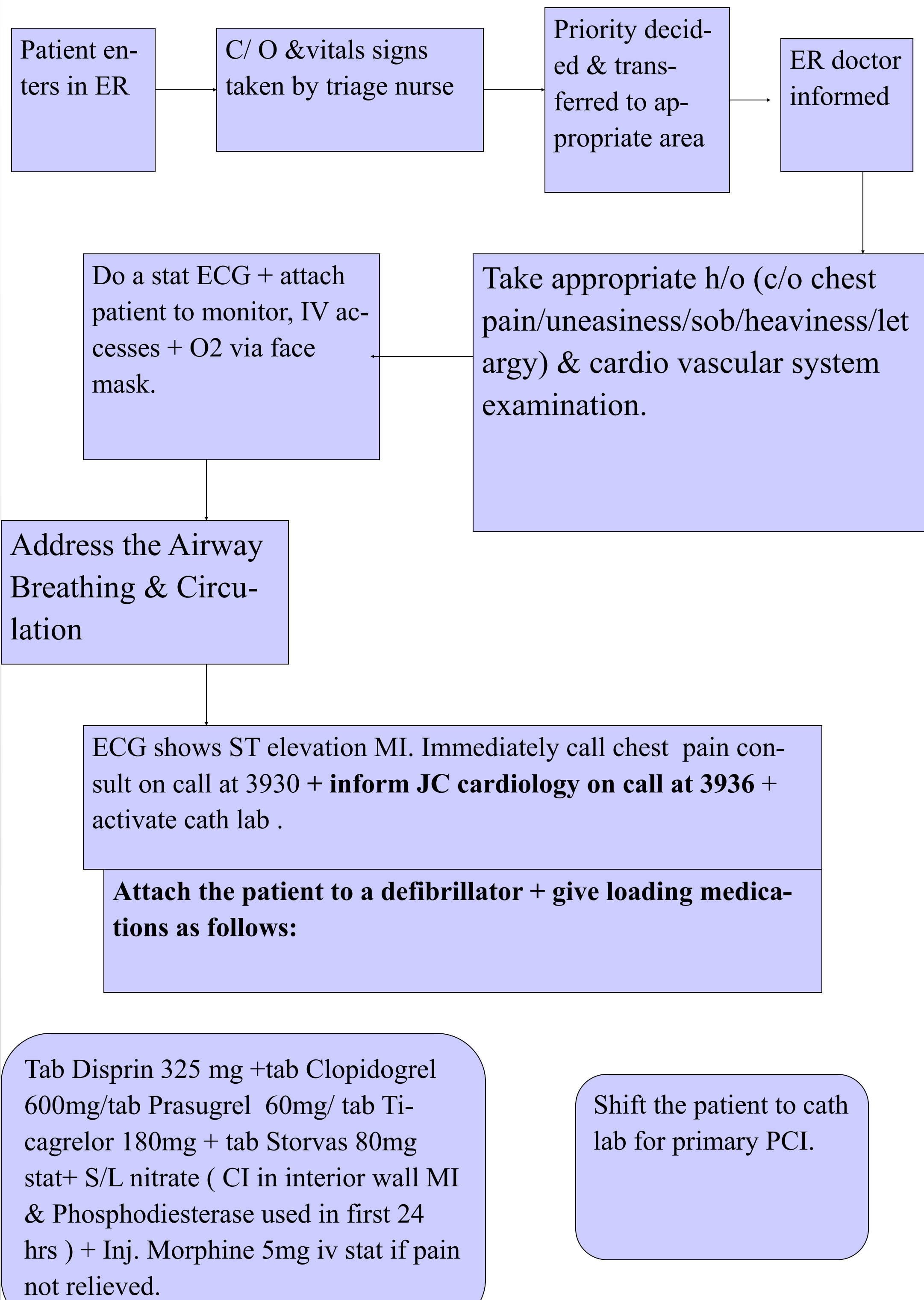
Technique– primary data analysis and secondary data review

Sample size – 100

Data collection -primary data collection(checklist),secondary data collection (previous data records, articles)

OBSERVATIONS AND FINDINGS

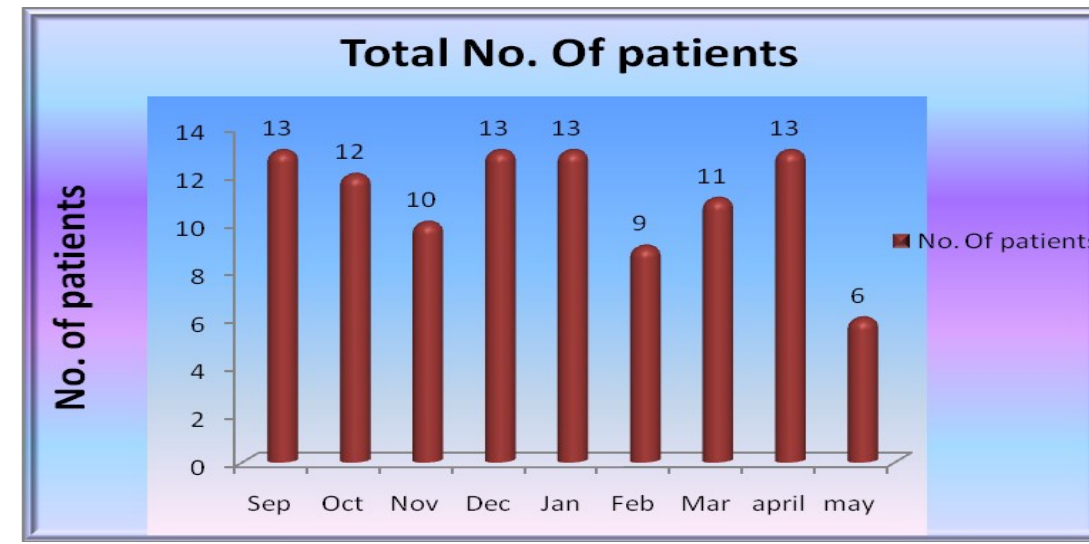
Pathway followed by STEMI patients:



Guided By: Dr. Anoop Khanna
Made By: Priyanka (0473)
HM-21

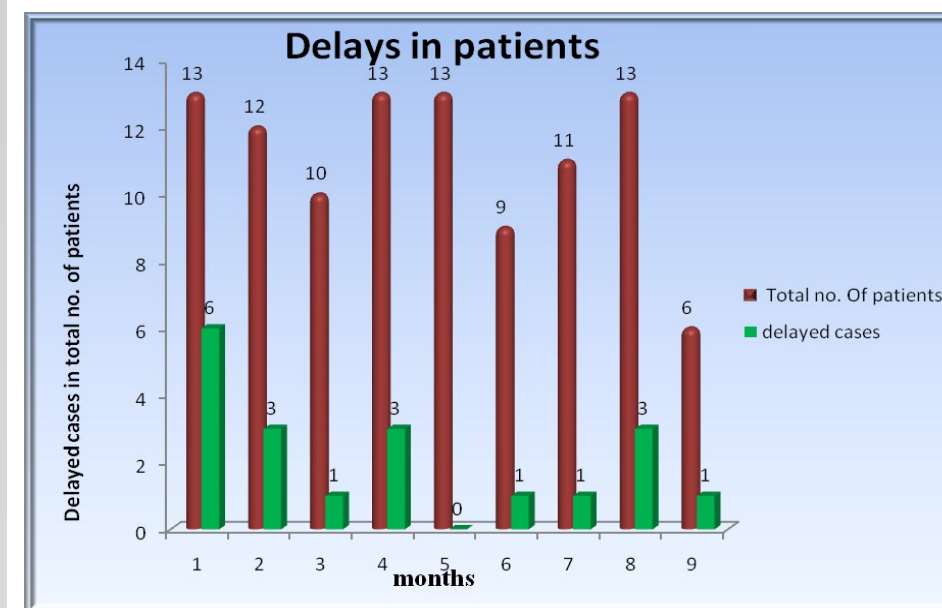
DATA ANALYSIS

Figure-1



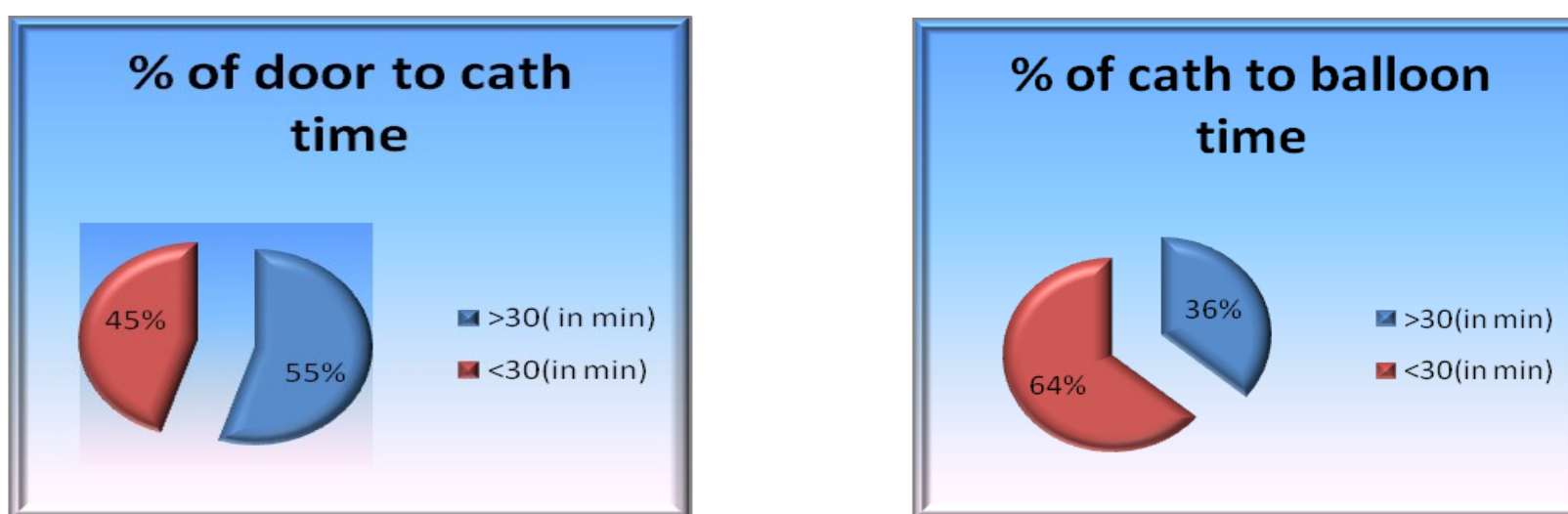
INFERENCE: The figure reveals that majority of patients came in month of September, December and January i.e. out of 100, 13 patients came in month of December and January followed by October. It is due to rising of blood pressure and also increased level of certain proteins that could risk for blood clots.

Figure-2



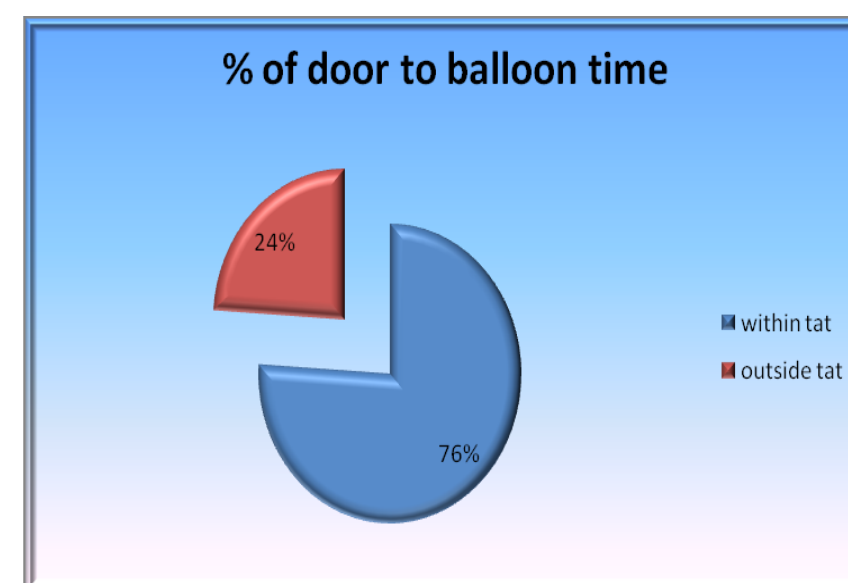
INFERENCE: The figure reveals that maximum Delays occurred during the month of September i.e. 6 out of 100 as there are more occurrence of myocardial infarction with greater risks. It gradually decreased in next months.

Figure-3



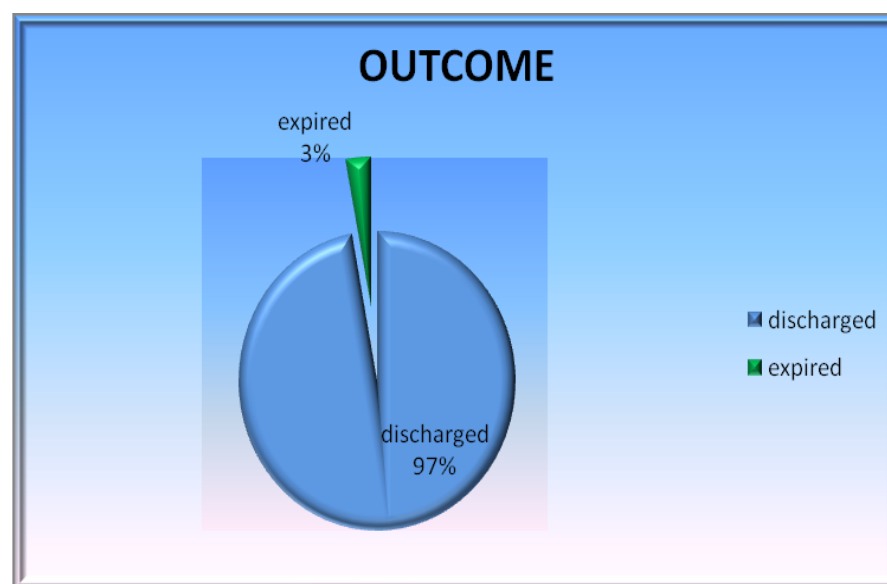
INFERENCE: The figures reveal the % of door to Cath time and Cath to balloon time. In door to Cath time 45% cases are within 30 minutes and 55% cases are outside 30 minutes. In Cath to balloon time 64% cases are within 30 minutes and 36% cases are outside 30 minutes.

Figure-4



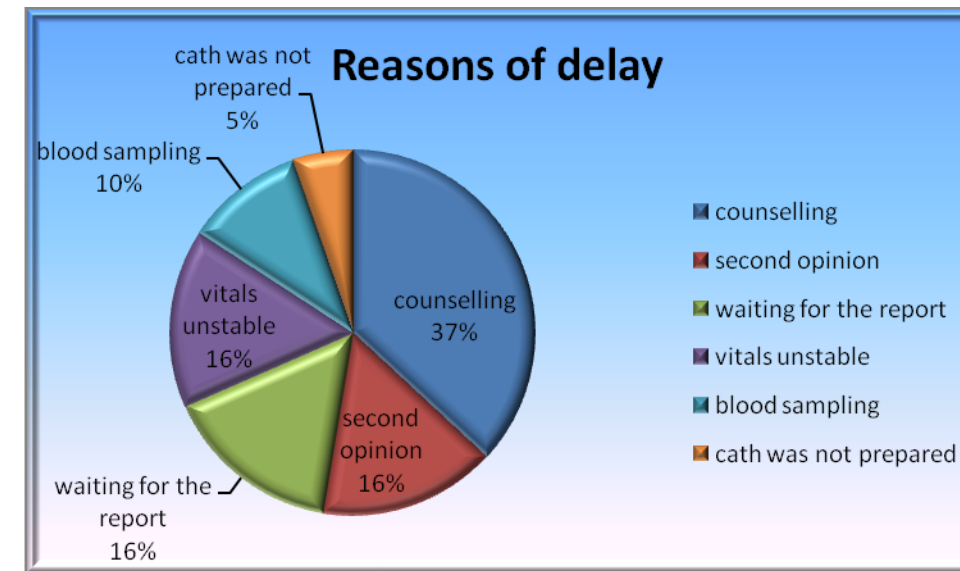
INFERENCE: The figure reveals the %age of door to balloon time in which 76% cases are within TAT i.e. 90 minutes and 24% cases are outside TAT i.e. taking time more than 90 minutes

Figure-5



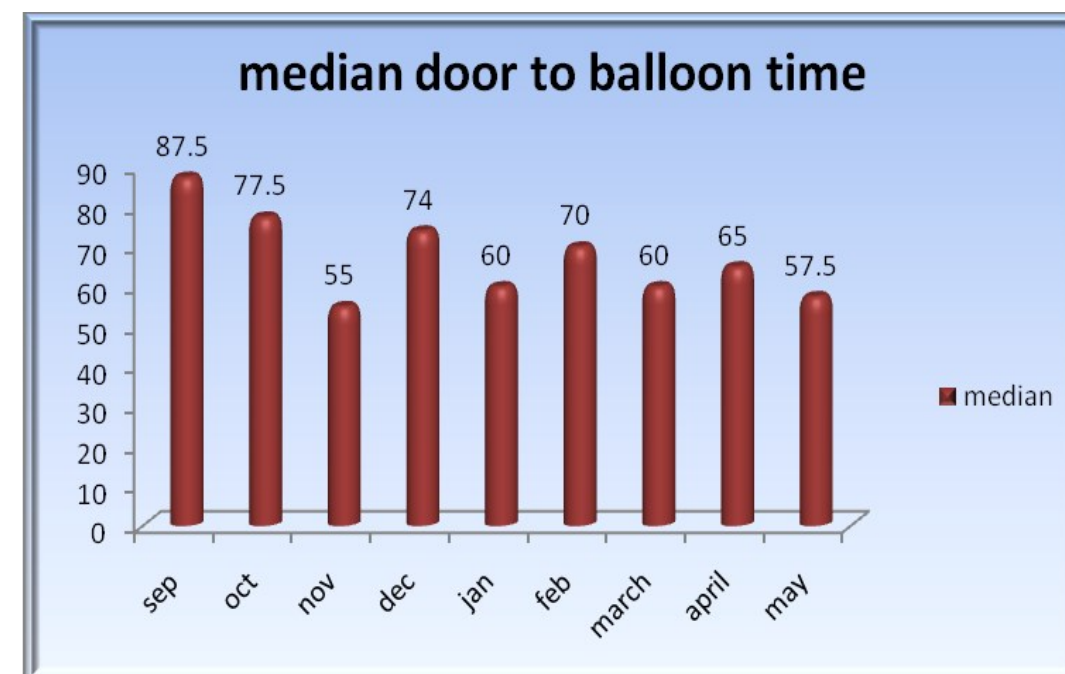
INFERENCE: The figure reveals the outcome of STEMI patients, 97% got discharged whereas 3% expired in hospital.

Figure-6



INFERENCE: The figure depicts that out of the six main reasons of delay of Door to Balloon time, most of the delays occurred because of the delay in counselling, i.e., 37%. In 16% cases, the reason of delay is waiting for the report and vitals instability.

Figure-7



INFERENCE: The figure shows that the door to balloon time in STEMI patients was more in month of September i.e.87.5 minutes followed by October and December i.e. 77.5 minutes and 74 minutes respectively.

RECOMMENDATIONS

- 1) The doctor should counsel the patient or the relatives regarding the procedure with the help of some bullet points so as to reduce the time in counselling.
- 2) There should be monthly multidisciplinary team meetings to evaluate outcomes and quality improvement data. Operational issues should be reviewed, problems identified and solutions implemented.
- 3) There should be organised inter- departmental communication and collaboration between the ED staff and Cath Lab staff members to facilitate patient care services.
- 4) These people should be informed as soon as code STEMI announces.
EMO,J C Cardio, Sr.consultant Cardio, ANS/DNS,Duty Manager, Manager(Emergency),night Mod, Cardiac Anaesthesia, Cath Lab Tech.,Cath Lab nurse.
- 5) Timely training and mock drills of the staff members in six months gap period.
- 6) Training EMS staff to read and interpret PH-ECGs on the scene also allows for faster diagnosis of STEMI and subsequent activation of the Cath Lab.
- 7) Direct transfer to catheterization - using protocols such as PH-ECG for STEMI diagnosis and early cath lab activation, patients can sometimes be transferred directly from the care of EMS staff to cath lab, avoiding time – potential delays in the ER altogether.