Original Research Paper Award

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19th BIENNIAL INTERNATIONAL CONFERENCE OF CARDIOLOGY
11th - 13th December, 2009, Lahore, Pakistan
at Pearl Continental Hotel, Lahore.

under the auspices of
Pakistan Cardiac Society
TIMELY DELIVERY OF THROMBOLYTIC TREATMENT IN A GENERAL TERTIARY CARE HOSPITAL. AN EXCELLENT OUTCOME EXPERIENCE TO BE PRACTICED ON COUNTRY BASIS.

BY
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Background:
Reperfusion therapy in STEMI is the major therapeutic goal. Due to its universal availability fibrinolysis remains the mainstay of reperfusion strategy. In Pakistan with few cardiac centers catering major cities still offering limited number of primary PCI, therefore the majority of STEMI patients from rural and urban population are being treated in general hospital of country where timely delivery of thrombolytic treatment (TT) is hampered due to number of reasons. Keeping in view the theme of the congress “Time to Timings” we designed a prospective study at Sheikh Zayed Medical College/Hospital, Rahim Yar Khan to minimize time to treatment in STEMI patients

Methods:
There were two phases of study. In phase one services of Rescue 1122 were utilized to develop speedy communication system with cardiology service at Sheikh Zayed Medical College/Hospital, Rahim Yar Khan and Streptokinase (SK) was instituted either in general emergency department or CCU.
In Phase II a Chest Pain Unit (CPU) was established at Emergency Department (ED) in a separate room fully equipped with monitoring system and resuscitation trolley. A trained medical officer from cardiology department and cardiac nurse was deputed. All patients with STEMI were thrombolysed in CPU and later on shifted to CCU after stabilization. A Performa describing Time to Treatment (TTt), Door to needle time (DN), demographics Reperfusion criteria, immediate and delayed complications were filled by doctor on duty. The data was entered in a data base and analysis were done using SPSS Version 16.0. Comparative groups were analyzed using Chi-Square and Kruskal-Wallis Test and (P = 0.05) were considered statistically significant.

Results:
291 patients with STEMI fulfilling the criteria for thrombolytic treatment (TT) were enrolled between Jan. 2009 to 20th Oct. 2009 at Emergency/cardiology department Sheikh Zayed Medical College/Hospital, Rahim Yar Khan. Only 15 patients were brought by Rescue 1122 and rest of the patients presented at their own or referred by G.P/Cardiologist. Age ranges between 22-90 years with mean of 51 years, SD 11.5. Males were 84% and 43% were illiterate. Only 1% were graduate and above.
30 patients were thrombolysed at CPU, 216 in CCU and 45 at ED. Time to Treatment was 3:52hr(CPU), 5:29hr(CCU), 4:55hr(ED) (P = 0.003). The Average DN time was 28 minutes in CPU, 1.17hr(CCU), 1.26hr(ED). The DN time was significantly dropped in CPU comparing ED and CCU (P = 0.000) reaching to the recommended time of <30 minutes according to ACC/AHA guidelines.

In TTr there was statistically significant difference by mode of presentation. The minimum TTr was in Rescue 1122 patients comparing self/referral by Doctor (P = 0.000). Low level of education, rural residence and female gender had prolonged TTr. Patients with TTr <3hr and significant effect on ST segment resolution (STR) and complication. The STR greater than 70% was maximum in CPU comparing ED and CCU (P = 0.000).

Conclusion:
This study has documented remarkable improvement in time to timings if fibrinolytic treatment is instituted at CPU showing statistically significant improvement in all reperfusion parameters. The limitation of this study is underutilization of Rescue 1122 services due to lack of motivation on health care personals. It is strongly recommended that CPUs may be developed in Emergency Departments of all districts and tertiary care hospitals nationwide as a cost effective facility with a great impact on morbidity and mortality related to STEMI by timely delivery of thrombolytic treatment.