TEMPERATURE RISE IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Abstract: A prospective study was carried out at CCU, Civil Teaching Hospital, Abbottabad on 150 patients. This study was designed to monitor the temperature profile in cases of Acute Myocardial Infarction. In 90% of the cases a mild to moderate rise in temperature within 24-48 hours was observed.

Introduction

The effect of elevated temperature during the first few days of myocardial infarction has not attracted much attention in past but may nevertheless be clinically important. Although fever is one of the most frequently performed clinical examination on patients in the hospital, it is given less importance, especially if the primary disease is other than, infection e.g. myocardial infarction.

Fever increases the basal metabolic rate, resulting in increased cardiac output, heart rate and hence myocardial oxygen consumption. This could prove deleterious to the mycardium already in jeopardy. The infarct size, the most important single factor influencing prognosis after acute myocardial infarction, might extend in patients with persistant fever.[1,2,3] Therefore it is important to bring their temperature down.

Besides monitoring the temperature another aspect of this study was to educate the paramedical and nursing staff as well as junior doctors (of the newly started CCU), regarding this well known but often over looked fact.

Method

The temperature profile of 150 patients who were admitted to cardiac care unit with myocardial infarction was studied. Patients of both sexes and all age groups were included. Infarct evolution was observed with continuous 12 lead ECG monitoring and cardiac enzymes estimation. Other causes of fever were excluded by history and relevant investigations. If any other cause was found the patients were excluded from the study. The pulse/temperature charts were maintained both by junior staff and senior staff separately. The fact that the rise in temperature is a common finding was kept secret from the junior staff. Temperature was recorded four hourly with clinical mercury thermometer. Proper method of recording temperature was instructed to all nurses and registrars so that the recording could be standardised.

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Results and Discussion

A slight to moderate rise in temperature is a common clinical finding in the first 24-48 hours after acute myocardical infarcation. The rise in temperature is directly proportional to the size of infarct. The larger the infarct the higher the fever. Fever is generated by endigenous mediators identical to Interleukin.[1] It causes fever by altering the set point for thermostat in hypothalamus. This factor is produced from phagocytes when activated. The same mechanism is involved in myocardial infarction and other non-infectious causes. Normally a rise in temperature of 1 C increases the heart rate by 30 and BMR and oxygen consumption by 10-15%. This effect in a diseased myocardium is even greater and could prove deleterious. A raised body temperature also increases the slope of phase 4 depolarization which may lead to different types of trakyanythmias.

Our study shows that most of these patients with acute myocardial infarction, who reached early to this unit had a rise in temperature. This fact is stressed on paramedics, nursing staff and junior doctors and we feel that temperature recording should nearly have the same significance as recording the pulse and blood pressure in the management of patients with myocardial infarction.

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