

The use of Thalamonal in Acute Myocardial Infarction

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Summary

Intravenous administration of narcotic analgesic drugs provides effective pain relief in patients with acute myocardial infarction. Thalamonal, a premix of 50:1 droperidol and fentanyl, was given intravenously in dose of 2 ml. to 20 patients with acute myocardial infarction. Effective pain relief, haemodynamic stability and low incidence of cardiac dysrhythmias were noticed in the patients studies.

Key words

Acute myocardial infarction; thalamonal

Pain relief should have high priority in the management of patients with acute myocardial infarction. Prompt and effective relief of pain serves to alleviate the patient's anxiety and therefore may limit catecholamine activity. There is experimental evidence that the persistent pain and associated

between myocardial oxygen demand and oxygen supply and consequently increase the size of infarction and the risk of death¹.

Sublingual nirtoglycerin may be employed for pain relief if the systolic blood pressure is higher than 100 mm Hg: (13,3 kPa). However it has been shown that this drug may reduce mean arterial blood pressure, with a resultant fall in coronary perfusion pressure, and cause a reflex tachycardia which may result in increased myocardial oxygen demand.² If pain is severe, morphine should be administered in small doses, 2-5 mg intravenously and repeated as required. Narcotic analgesics exert favourable haemodynamic effects by increasing venous capacitance, thereby reducing venous return, and by reducing systemic vascular resistance, hence diminishing the impedance to left ventricular emptying. The result of both effects is a reduction in myocardial oxygen demand.

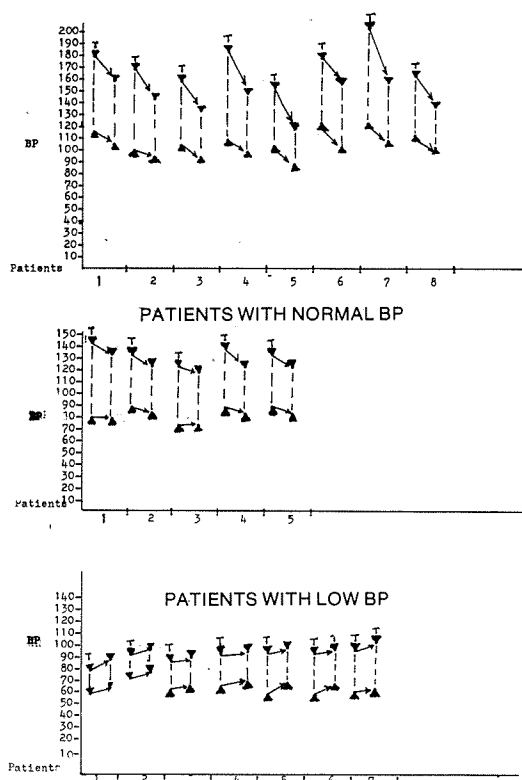
This prompted the present study, in which the effect of thalamonal in the relief of pain and on haemodynamic stability were studied in a small group of patients with acute myocardial infarction.

Patients and Methods

Twenty consecutive patients with clinical and ECG signs of acute myocardial infarction were

studied. Their ages ranged between 37 and 72 years (mean 54.5 years). 8 were female, 12 male. To each patient a dose of 2 ml Thalamonal was injected intravenously over a two minutes period.

Table 1 PATIENTS WITH HIGH BP



A contraindication for giving Thalamonal was congestive heart failure.

Following the Thalamonal injection the relief of chest pain was assessed on the basis of patient's subjective pain ratings as have no, slight, moderate, or complete relief.

Arterial blood pressure and heart rate were frequently measured and charted.

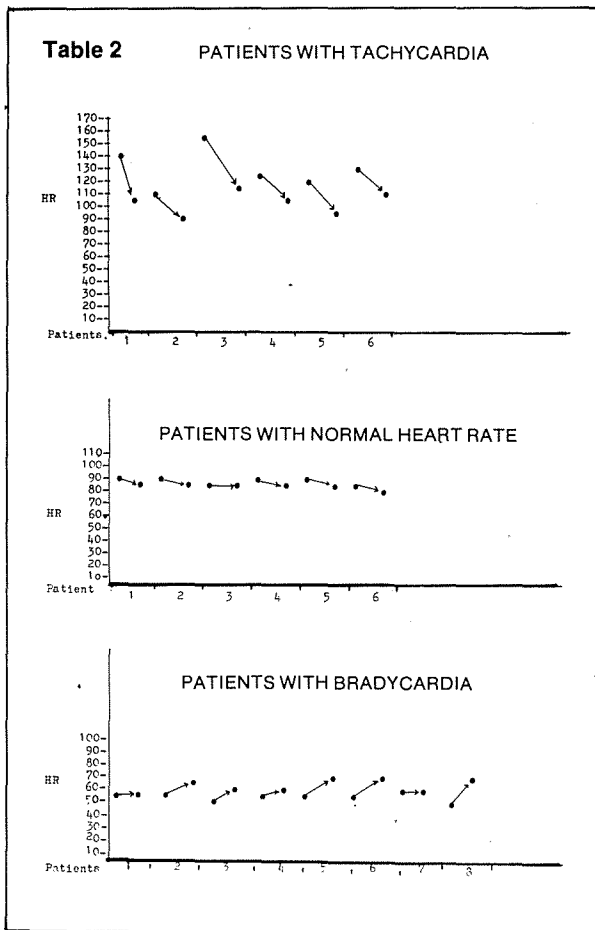
Patients who did not have pain relief following the first injection were given repeated doses of 2 ml thalamonal 10-15 min apart.

Results

Eighteen patients reported moderate to complete pain relief following the first Thalamonal injection. In two patients repeated doses of Thalamonal were required to provide adequate pain relief.

Table 1 shows the changes in the systolic and diastolic blood pressures following the thalamonal injection. Analysis of these results indicates that Thalamonal has beneficial haemodynamic effects.

The effect of Thalamonal on heart rate (HR) is shown on Table 2.



Discussion

Following the introduction of Coronary Care Units (CCU) in the early sixties, the in-hospital mortality in patients with myocardial infarction (MI) has fallen from 30-40% to 10-20%. This reduction is due predominantly to vigorous treatment of ventricular dysrhythmias. Monitoring of dysrhythmias is of prime importance in patients with MI and in uncomplicated cases is usually required only for the first 24-48 hours. In all but one of our patients serious dysrhythmias were absent following Thalamonal injection. It has been suggested that the use of thalamonal is associated with lowered catecholamine levels in plasma⁷ and a decrease in peripheral vascular resistance⁵, which contributed in preventing serious dysrhythmias in our patients.

Thalamonal acts on brain stem structures and also possess an antiemetic effect⁶. Its alpha-adrenergic blocking properties⁴ could have been partly responsible for the beneficial haemodynamic response in our patients.

It has been indicated, from posmortem findings, that when 40% or more of the left ventricle is destroyed death is inevitable. Hence, therapeutic approaches must be directed towards reducing the infarct size.

Control of pain is one of the most important aspects of therapy and should be achieved promptly with adequate doses of effective drugs. The pain of infarction is often short-lived and slow IV injection of Thalamonal which is a potent narcotic analgesic drug, has been effective in alleviating the pain in our patients.

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