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EFFECTS OF ACUTE MYOCARDIAL INFARCTION ON ACID-BASE BALANCE AND ARTERIAL PO₂

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In order to assess the effects of acute myocardial infarction (AMI) on acid-base balance and arterial PO₂ and also their relationship to infarct type, site, size and L VEF, the arterial blood gases in 100 patients were measured within the first 24 hours after the beginning of clinical symptoms of acute myocardial infarction. Almost all patients (98%) were, in Killip FC I, II with no obvious evidence of heart failure (S3 gallop and/or pulmonary rales). In 28% of patients, non-Q wave MI and in the remaining 72%, Q-wave MI was detected by the use of electrocardiography. Patients were divided in three groups according to infarct size (total serum CPK). Infarct site was determined by standard electrocardiographic criteria, and L VEF was estimated by echocardiography. Acid-base imbalance was observed to be very common during the early stages of AMI (79%) and its occurrence was dependent upon infarct type (P <0.025), infarct site (P<0.05), infarct size (P<0.05), and LVEF (P<0.05). On the other hand, the occurrence of hypoxemia during AMI was also found to be very common (83%) and its incidence and severity was higher in Q-wave MI than non-Q wave MI. It was found that hypoxemia had a strong relationship with infarct site (P<0.05), but despite what was expected there was no significant relationship between hypoxemia and infarct size or LVED. The effects of other intervening variables including thrombolytic therapy, different doses of intravenous nitroglycerin and or morphine sulfate, might have caused this.

Keyword: ACUTE MYOCARDIAL INFARCTION, ACID-BASE BALANCE, ARTERIAL OXYGEN TENSION