ST ELEVATION IN A PATIENT IN THE EARLY PHASE OF EXERTIONAL HEAT STROKE: A CASE REPORT AND LITERATURE REVIEW

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Abstract

Heat stroke has been reported, but elevation of serum cardiac enzymes and electrocardiogram (ECG) abnormalities can rarely be seen in the patients. Here, we describe a patient with an early phase of exertional heat stroke that was initially misdiagnosed as acute myocardial infarction (AMI). The case history is presented of one 22-year-old male recruit who was found to be disoriented, incoherent, and convulsive after a long military march on a hot summer day. Cooling measures were done immediately. He was first sent to a nearby community hospital, where his ear temperature was measured to be 38.8°C. The patient received intensive fluid resuscitation and was given supplemental oxygen. Evident ST elevation in leads V2-V6 of his ECG and raised serum cardiac enzymes were accidentally noted. Under the impression of AMI, he was referred to our hospital. His echocardiography and thallium-201 scan were unremarkable. During his stay in the hospital, ST elevation decreased and myocardial markers gradually normalized. After general condition was stable, he was discharged. We present this case to remind physicians that if ST-T elevation is found in the ECG of a heat stroke patient, AMI is not always the leading diagnosis. As in our case, rapid cooling and support of the organ systems are sufficient management in the early stage of heat stroke. This is because they are the key factors to prevent its progression and potential complications.

Key words: Heat stroke, ST Elevation, Electrocardiography, Acute myocardial infarction, Vasospasm

Introduction

Heat stroke is a medical emergency resulting from thermoregulatory failure. Two findings are necessary for its diagnosis, namely, an elevated core body temperature (>40°C) and impairment of the central nervous system, whether it be simple confusion, delirium, seizures, or coma. It can cause multiple organ damage and dysfunction.1 Myocardial injury and certain nonspecific electrocardiogram (ECG) changes have been rarely documented in heat stroke cases.2,3 In this paper, we report a case of favourable...