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Electrocardiographic Manifestations in three Psychiatric patients with Hypothermia – Case Report

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Abstract: Hypothermia occurs when the core body temperature falls below 35°C and, in severe cases, it can lead to electrocardiographic changes. Several conditions which can occur in the psychiatric population increase the risk of hypothermia which can be aggravated by the use of several classes of medications such as antipsychotics, beta-adrenergic antagonists, benzodiazepines and other sedatives. Three psychiatric patients have been admitted for hypothermia and electrocardiographic manifestations (sinus bradycardia, QT prolongation and Osborn waves) which reversed completely after treatment.

Key words: Hypothermia, Osborn waves, Electrocardiographic changes, Psychiatric patients.

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Introduction

Hypothermia is associated with a spectrum of electrocardiographic changes.¹ The degree of hypothermia leads to various electrocardiographic manifestations.² In mild hypothermia (35°C - 32°C), the electrocardiogram (ECG) is usually normal but it can rarely show J waves (Osborn waves).³ The presence of Osborn waves in inferior and lateral leads, in combination with the appearance of other electrocardiographic manifestations such as increase in PR and QT intervals, increase in QRS complex duration, decrease in amplitude of P and T waves and frequent supraventricular arrhythmias, are noted in moderate hypothermia (32°C – 28°C).⁴⁻⁷ In severe hypothermia (<28°C), additional ECG changes such as J waves in all leads, absence of P waves and frequent ventricular arrhythmias.⁸⁻⁹ Osborn wave is considered the most specific ECG change in hypothermia.¹⁰⁻¹²

Case presentation

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