

Chronic heart failure in a long-standing methamphetamine abuser

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Abstract

Background: Amphetamine-type stimulant (ATS) often damages cardiomyocytes through its sympathomimetic properties. Here, we present an autopsy case report describing ATS-associated cardiomyopathy (ATSAC) in an individual with a history of methamphetamine abuse of over 30 years.

Case report: A 50-year-old man was found deceased at his home. Just 3 days before his death, he had been released from prison after serving a 3-year sentence, during which period he had stopped drug use. Although the hearts of patients with ATSAC are generally hypertrophic or dilated, his heart showed a normal appearance. Histologically, heart failure cells were evident in the lungs. The myocardium consisted of a mixture of hypertrophic and atrophic cardiomyocytes. Contraction band necrosis and lipofuscin accumulation were

evident. Immunostaining for tenascin C was negative. These findings indicated extensive damage to the cardiomyocytes. We diagnosed the cause of his death as pulmonary edema due to chronic heart failure, despite the normal appearance of the heart. ATSAC is generally reversible after cessation of drug use. However, in this case, extreme long-standing abuse of methamphetamines resulted in severe damage to cardiomyocytes and consequent loss of recovery capacity.

Conclusion: To the best of our knowledge, this is the first case report describing atrophic cardiomyocytes in a long-standing ATS abuser. The present findings highlight the importance of histopathological examination in such cases, regardless of external tissue appearance.

Key Words: methamphetamine, long-standing abuse, cardiomyopathy, chronic heart failure