Short Communication

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Lightning injury with multisystem involvement

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Abstract

Introduction: Lightning leads to multiple fatalities, trauma and disability: cardiac arrythmia, arrest, burns, stroke, kidney injury and leading to death. We present a case with lightning injury with multiple complications and management.

Case: A 40-year-old female farmer presented with transient loss of consciousness, vomiting, burns over neck, abdomen and decreased hearing after being struck by lightning.

On arrival she had palpitations, heart rate of 140/min irregularly irregular, blood pressure was 90/50mm Hg. Skin over neck, breast, abdomen and groin showed second degree burns. Electrocardiogram showed atrial fibrillation after which the patient was cardioverted to rate controlled atrial fibrillation. On regaining consciousness patient had bilateral sensorineural hearing loss. MRI brain(venogram) was suggestive of venous sinus thrombosis. Audiometry showed profound sensorineural hearing loss bilaterally. Cardiac enzymes showed elevation. Post cardioversion ECG showed T wave inversions in all leads, suggestive of myocardial ischemia. Urine showed protein, blood and myoglobulin. Her CPK levels were normal. Thrombophilia profile showed protein c deficiency. Patient was started on Amiadarone, low molecular weight heparin and later switched to oral anticoagulant on discharge.

Discussion and conclusion: Lightning injuries have multi-systemic manifestations. In cardiovascular system they can cause cardiac depolarization, asystole, atrial and ventricular arrhythmias. Multiple mechanisms are coronary artery spasm, catecholamine effects, thermal damage, ischemia. Usually, these atrial arrythmias are known to autorevert, but here, the patient being hemodynamically unstable, was cardioverted. Interesting finding in patient was bilateral sensorineural deafness. Usually, it is secondary to rupture or damage to tympanic membrane but occasional sensorineural hearing loss reported due to either vascular or structural damage to inner ear. Van Haren RM et al suggested hypercoagulable state during recovery from electrical burns. In this case it could have been the cause of cerebral venous sinus thrombosis.

Biography

Dr. Ashwini Patankar is an emerging physician residing in Mumbai. Currently is in the final year of the MD in Internal medicine. Her clinical and academic interests lie in neurology and cardiology. Currently Dr. Ashwini has been playing a major role in COVID-19 pandemic on frontline and has contributed to COVID-19 and clinical research. With keen interest in evidence-based medicine, Dr. Ashwini aims to develop a research-oriented career in Internal medicine.

Recent publication data:

1. Case report: Systemic lupus erythematosus flare with spontaneous intracranial bleed in dengue fever A Hoda, A Patankar, S Chandrakar, A Bashir INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH 8 (3)
2. Shared Computer Keyboards And Input Devices In Clinical Areas: Source Of Nosocomial Infections S Patankar, Ashwini, Samant INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH 7 (5) Photo:

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