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# A case of atrial fibrillation after electric shock

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**Background:** Electric shock may produce a great variety of injuries, ranging from simple unpleasant tingling sensation to sudden death. Damage to muscle and supporting structures is a well-documented pattern of injury. Ventricular fibrillation and sudden death are a well-known pattern of electrical injury. In addition various authors have reported ischemic changes, direct myocardial injury and myocardial infarction.Atrial fibrillation is an uncommon complication.

**Case report:** A 65 year old gentleman presented to casualty with h/o electric shock while working in a rice mill, where he had had fall over a transformer and accidently hit a live wire, presented to casualty after 1 hour after the electric shock. No h/o palpitations, syncope, chest pain. No past h/o any cardiovascular diseases. O/E: pulse-110 b/m irregularly irregular, BP-110/70 mmHg. Lungs were clear and CVS examination revealed no murmurs. One entry wound was seen over right hypochondrium and exit wound over left leg between 4th and 5th toes. ECG confirmed the diagnosis of atrial fibrillation. Patient was started on oral Beta blocker metaprolol 12.5 mg OD. Patient reverted back to sinus rhythm after 6 hours which was confirmed by ECG.

**Discussion:** Electrical shocks generally result from contact with live wires. Cardiovascular effects include myocardial infarction, transient accelerated hypertension, left ventricular dysfunction, cardiac rupture, and arrhythmias. Premature ventricular contractions, ventricular tachycardia, ventricular fibrillation, atrial tachycardia, atrial fibrillation, bundle branch, and complete heart block may be occur after electrical shock. The mechanism of electrical current induced arrhythmias is not clear. Because of differences in electrical resistance, current travels preferentially along blood vessels and nerves, making the heart most susceptible to injury. Cardiac arrhythmias may occur at the time of electrical shock or later, but mostly within first day after injury. In conclusion, electrical shocks with low voltage may cause atrial fibrillation among other severe cardiac dysfunctions. Most atrial fibrillations after electrical shocks are self limiting.

## Biography

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