

# Extensive Abdominal Electric Burn Injury

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## KEY WORDS

Burst abdomen

## ABSTRACT

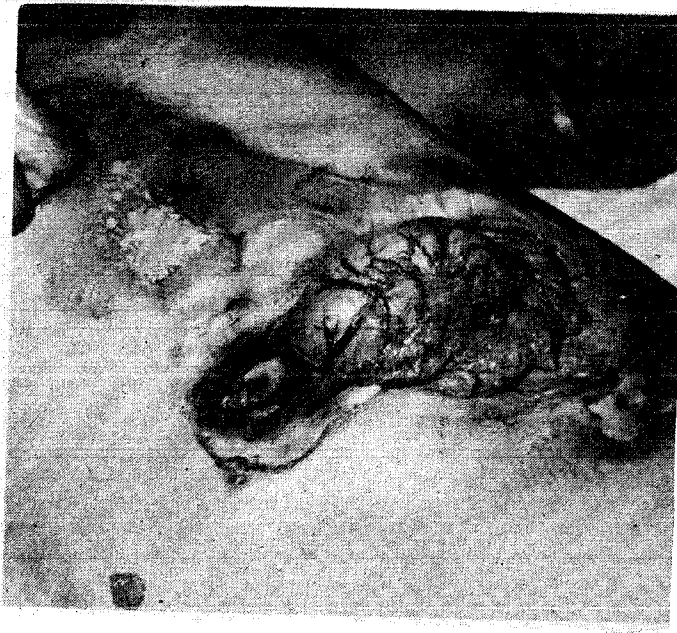
A rare case of electric burns of the abdominal wall resulting into damage of liver, stomach, transverse colon is presented.

## INTRODUCTION

Electrical burn injuries are showing an increase in keeping with increased per capita consumption of the same in developing countries. Mostly these tend to be musculoskeletal. Cases involving anterior abdominal wall or of the contents are however rare. Hence this presentation is made and literature is reviewed.

## CASE REPORT

A 39 year old male electrician with 30 % burn involving face, both upper extremities and anterior abdominal wall was admitted in 1990. Patient was working on an electrical transformer and his abdomen was against iron railing when the accident resulted. Severity of the injury to the abdominal wall caused sloughing, and resulted in episode of herniation of the visceral contents namely stomach, omentum and transverse colon. Immediate resuscitative measures were undertaken by shifting patient to operation theatre where exploration was carried out



Anterior abdominal wall had a hole of the size 12 x 6 cms. in the epigastric region. Exploration revealed perforation of anterior wall of body of stomach and necrosis of 4 cm. circular area. The part of liver on either side of attachment of falciform ligament was charred and necrosed for 3 cm.

Affected stomach wall was excised and closed. Affected part of liver was excised and hemostasis was achieved with mattress suture. The omentum was placed beneath the abdominal wall defect. Single layer of prolene mesh was placed in the sub-fascial plane and secured by interrupted polypropylene sutures. The skin closure was not possible. The abdominal wound was allowed to granulate and split thickness skin graft was put on latter. For this patient bilateral upper limb amputations through arm were needed on 4th day for left side and 6th day on right side. Thereafter patient recovered uneventfully.

#### DISCUSSION :

In electrical burn musculoskeletal injuries are common, however, in few intra abdominal organ lesions as well as other tissue and organ damage has been reported in high tension injuries. Intra abdominal lesion recorded after electrical injuries include necrosis of gall bladder, perforation of hollow viscera, pancreatitis, transient ileus and curling's ulcer. Haberal reports of a case in which both inferior extremities, abdomen and thorax and left lung, liver, stomach and spleen were exposed. Khan has reported where electric burns affecting anterior abdominal wall, extensive gangrene of

small bowel with multiple perforations and a large perforation of transverse colon. For anterior abdominal wall defects favourable characteristic of prolene as the prosthetic material of choice include durability, reliability and high tensile strength, but most importantly, host tolerance in the presence of infection. There are reports of successful use of prolene mesh for reconstruction of abdominal wall loss in emergency and trauma. Prolene mesh allows adequate drainage, granulation permeates the mesh & allows a split skin graft cover later.

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