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Research Article

MANAGEMENT OF ELECTROCUTION IN A FREE RANGE RHESUS MONKEY

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ABSTRACT

Electrical injuries in animals occur most often accidentally. A juvenile free range rhesus monkey was presented on lateral recumbency in an unconscious state by the peeps suspecting electrocution. Singed hairs, stiffened palms, singing odour from the body and a cut-wound by the wire (burn injury) in the palms were the clinical findings. Emergency implementation of fluid therapy, analgesics and life saving drugs were successful in managing electrocution.

INTRODUCTION

The arboreal nature of rhesus macaques makes them vulnerable to electrocution from high-voltage industrial supply as well as low-tension domestic wires. The data on pattern of electrocution injuries and electrocution mortalities in free-ranging rhesus macaques are rarely reported (Vijay and Vipin, 2015). Depending on various parameters of the current (including the type of circuit, voltage, current and duration of exposure) and conditions of the animal (such as wet or dry hair coat and pathway of current through the body), lesions may be absent or may include early or localized development of rigor mortis, signs of acute circulatory failure, or severe thermoelectrical burns. Such burns may present as external current marks, singed hair or feathers, metallization of the skin, or occasionally internal electroporation injury resulting in muscle necrosis, hemolysis, vascular damage with thrombosis, injury to brain and spinal cord, or skeletal fractures (Schulze *et al.,* 2016). The type of injury and extent of an electric injury is determined by voltage, current strength, resistance to flow duration of contact with source (Price and Cooper, 2002). Sometimes electrocution may also cause coma and death of the animal. Fluid therapy and analgesia plays a crucial role in managing electrocution.

Case Presentation and Clinical Findings

A juvenile rhesus monkey was presented on recumbency in an unconscious condition. On physical examination all the hairs over the body were singed, singing odour from the body and burn injuries/marks were observed on both palms and by this, it was determined that it is a case of electrocution. Upon clinical examination temperature of 100^0F, tachycardia, pale mucous membranes and shallow respiration were observed. The primary concern in this case was immediate/emergency life saving therapy.

Treatment

Fluid therapy (Inj. Dextrose Normal Saline @ 40ml/ kg body weight IV), Injections of Dexamethasone (Dexocare®) 1ml IV, Analgin (Vetalgin®) @1ml total dose IM were administered. A regular dressing and wound treatment was done to the injuries on palms with betadine antiseptic ointment. Mild physiotherapy has done to relieve the stiffness of muscle. After 20 minutes the monkey became conscious and opened the eyes, after few minutes it became active and tried to move. As restraining became difficult mild sedation was given to complete the therapy. Antibiotic (Inj. Taxim® @ 20mg/kg body weight IV) was administered to prevent secondary bacterial infection. The treatment regimen was continued for the second day. On the 3rd day the monkey escaped into the nearby wilds.

DISCUSSION

The monkey human interaction is increasingly acquiring monkey man conflict dimensions often referred to as 'monkey menace'. Some aspects of city life are very dangerous like treacherous roads, electric cable wires crisscrossing all over the place and of course the petty attitudes of some people and dogs. Macaques are highly susceptible to electric injuries and often get electrocuted by low-tension household current or from high-tension electric wires (Vijay and Vipin, 2015) because of

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their arboreal and climbing nature. The injuries due to electrocution by holding of electric wires are common in rhesus monkeys (Singh *et al*., 2003). Identification of small skin lesions, so-called current marks, can be difficult. Singed hairs and skin develop photoluminescent properties were evident in most of the reported cases. Current marks are described as crater-like elevations of the skin around a sunken center (Schulze *et al.,* 2016). Electrothermal burns were usually present in high-voltage accidents or in low-voltage accidents with small contact areas and/or prolonged contact durations. In the present case singed hairs and current marks in the palms were highly appreciable (Fig 1, 2).

Fig 1 singing hairs and mark of electric wire on palm

Fig 2 during therapy animal in conscious condition

Treatment in electrocution injuries consists of administering artificial respiration, parenteral administration of respiratory and cardiac stimulants (Koumbourlis, 2002).

Acute reduction of intravascular fluid volume must be offset to maintain cardiac output and peripheral tissue perfusion (Vijay and Vipin, 2015). Fluid support is critical and corticosteroid plays an important role in condition of shock. It enhances blood pressure and there by accelerates cardiac output. The cell membrane are stabilized as such prevent spilling of myocardial depressive enzyme (Abhay *et al.,* 2014). However in the present case respiratory distress was not so significant. Therefore, Fluid therapy, corticosteroid, analgesic resulted in successful management of electrocution. This is in accordance with Abhay *et al.,* (2014) and Kashyap *et al*., (2011).

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