

The Rules of Forensic Medicine Examination in Diagnosis of Electrical injury in Childhood

Aghakhani K¹, Mehrpisheh Sh², Memarian A^{1*}, Shakeri M³

¹ Department of Forensic Medicine and Toxicology, Tehran University of Medical Sciences, Tehran, Iran

² Children Medical Center, Tehran University of Medical Sciences, Tehran, Iran

³ Department of Forensic Medicine and Toxicology, Shahid Beheshti University of Medical Sciences, Tehran, Iran

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ABSTRACT

Background: History taking is a duty that must get out in different situation as child's parents or in adults by themselves, to able provide the best helps in minimum time. Certainly, the information come out from history have significant effects on management plans.

Case Presentation: A 16 months baby that transfers to ER department with complete cardiorespiratory arrest and after response to resuscitation the medical management was done for him. As history taking, he found unconsciousness near dress pan with wet dressing in bathroom. In physical exam the little impact traumatism on his/her head and face was detected. In blood and urine samples, there were not significant findings for toxicological screening. The physician requested for forensic specialist consultation for ruling out any child abuse doubt. The future examination was done by forensic team and they found the hyperkeratotic nodules on palmar surface of first phalange of right index finger due to electrocution.

Conclusion: The history taking and following physical exam have greatest significant moment and the detailed and exact physical examination include whole parts of body, especially in children who couldn't present and complain about their problems completely.

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► *Implication for health policy/practice/research/medical education:*
Electrical injury in Childhood

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*Corresponding author: Memarian A, MD.
Department of Forensic Medicine and Toxicology,
Tehran University of Medical Sciences, Tehran, Iran.
E-mail: azade.memarian@yahoo.com

1. Introduction:

History taking is a duty that must get out in different situation as child's parents or in

adults by themselves, to able provide the best helps in minim time. Certainly, the information come out from history have significant effects on management plans (1). The sharp-witted physician, brings out the significant and manifest objectives from history, accumulates them and then for completing his detecting, does examination. Indeed, knowledge about simple skills but subtle in physical examination and history taking, is a necessary fact for every medical staffs (1, 2). The doctor should try exams with his eyes as much as exams with his hands, and also uses his other senses, then dedicates enough time for his examination (2). The successful examination depends on patients age. The infants and little children can exam easily and completely (1).

2. Case Presentation:

The patient is a 16 months baby brought to ER department with complete cardiorespiratory arrest. In clinical records reported that the child body found cold without pulse and respiration, so CPR was started immediately, intubated, after 25 minutes reversing heart rates was detected. Then, stabilized and transferred to Pediatric Intensive Care Unit(PICU). In PICU arrival he had pinpoint pupils, without light reaction, and then, developed by focal abnormal jerking following by seizure. Then administration Naloxone single dose, Diazepam 3mg and epinephrine and then the vital sign achieved to BP=105/70 PR=145 TEM: 37 GCS=5/15.

In maternal history the child had seizure disorder in past medical history since one month old, that admitted for short period and received phenytoin and phenobarbital as medication ,but discharged without tight controlling and follow up or adequate and effective treatment.

The recent problem before hospitaling happened by lose his consciousness following by falling near dress pan in bath room and as his mother found his unconsciousness with wet dressing near



Fig. 1. Electrical mark. in trance wound.



Fig. 2. Electrical mark. in trance wound.



Fig. 3.

dress pan, so she didn't know any event details.

In physical exam, he had abrasion and swelling in right frontal and lateral right orbital fossa. Heart sound was normal, lung auscultation was clear. Abdomen was soft, without organomegaly.

In neurologic consultation reported normal neck x-ray and brain edema in brain ct-scan, and then treated by phenytoin and diazepam and ceftriaxone. All toxicologic screening in blood and urine sampling were negative.

Finally the patient treated with diagnosis of convulsion and following hypoxic encephalopathy. In attention to abrasion and swelling in his face the physician requested for forensic consultation for ruling out child abuse doubt.

In detailed examination done by forensic specialist, he found the point that stay away from other's attention; the burning area with hyperkeratinized scale in dark-brown color in palmar surface of first phalange of right index finger (fig.1, 2), that this burning had electrical mark characteria, so with obtaining the future history taking from his mother, appreciated that, there was the electrical socket in inappropriate place ,so the child enter the bathroom and put his finger in the socket, and due to wet dressing and humidity in space the exit current was not determined (fig.3).

3. Discussion and Conclusion:

The perfect history taking and physical examination is an art, that obtain by practice and assiduity .Unfortunately, with incrementing in experiences and durations of work, decrementing in capacity and content of history and physical examination be happened, while the perfect and complete examinations are

essential and obvious .When it calls as a correct examination that contains all parts specially in a baby who can't complain completely (1).

Although the correct diagnosis of patient's problem cause, didn't make any change in treatment and management, but this article can lead our respectable colleagues attention to emphasis the logical history and physical examination.

It should emphasized, if electrocution happen in wet environment may be doesn't have any mark on skin and diagnosis just based on side evidences. For example in bathroom electrocution due to wide contact region and low resistance in wet skin, couldn't find any side effects and results (3-5).

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