



“Selfie”-related electrocution

Drazen Cuculic¹ · Ivan Sosa¹

Accepted: 18 December 2018

© Springer Science+Business Media, LLC, part of Springer Nature 2019

Abstract

Electrical injuries contribute a small but significant fraction to all burn trauma cases, and an even smaller proportion to those that are lethal. Accidental death rates among teenagers are the highest of all age-groups, and taking a “selfie” has been a practice that has, on rare occasions, led to such a death, often from electrocution. The case of a young man and his friend, who were electrocuted after climbing onto the roof of a parked railway wagon to take selfies is reported. One died at the scene, while the other survived. This case demonstrates that electrocution may occur with parked railway wagons, and in the young may be associated with selfie taking.

Keywords Electrocution · Rail · Selfie taking · Selfies · Youth · Accidental death

Case report

Two males aged 19 and 20 years climbed onto the roof of a stationary railway wagon in January to take pictures of themselves on their cell phones, i.e. “selfies”. One received extensive burns and died at the scene, while the other, who sustained 60% total body surface area (TBSA) burns to the torso and extremities, survived and was discharged in a stable condition after 3 months of intensive hospital treatment.

Immediately after the accident, Emergency Services tended to the surviving victim who had suffered multiple second- and third-degree burns covering 60% of his TBSA. Police retrieved the body of the second male who was lying on his back, face-up (Fig. 1). The body was completely burned with only fragments of identifiable clothes remaining (belt, training shoes, and socks) (Fig. 2). Pieces of slightly burned clothes were scattered over an area covering approximately 2.5 m in diameter. The police also photographed live wires in the form of the driving guide that extended above the body.

At autopsy the major findings were of a markedly charred and burnt adult male body (Fig. 3) with full thickness soft tissue charring exposing body cavities. Remnants of clothing were focally adherent to the body. The internal organs were charred. Toxicological examination could not be undertaken due to the absence of body fluids and the extensive burning/charring of tissues. The findings at autopsy were in keeping with the described incident and the results of police investigations. There was no indication of any contribution to the lethal episode of underlying organic diseases or other forms of trauma. Death was, therefore, due to high-voltage electrocution that had occurred during the taking of selfies.

Discussion

While deaths due to electrocution are rare in childhood, teenagers have the highest rate of accidental death. The taking of a self-portrait photograph using a smartphone (“selfie”) leading to electrocution is a related but very uncommon event [1, 2].

Deaths precipitated by taking selfies came to light in 2014 [3], and to date a number of accidents have been described. Electrocutions have occurred while taking selfies, usually as a result of inadvertent contact with a high-voltage line, such as those on the top of trains.

The highest rate of selfie-related deaths is in India, and Bansal et al. include electrocution as one of the reasons for such events, usually in a younger age group [4]. Flaherty and Choi also report on a diverse group of selfie injuries, including a Romanian

Part of this paper was presented as a poster at The 26th International Meeting on Forensic Medicine Alpe – Adria – Pannonia, in Pula, Croatia held on 30 May – 2 June 2018.

✉ Ivan Sosa
ivan.sosa@medri.uniri.hr

¹ Department of Forensic Medicine and criminalistics, University of Rijeka Faculty of Medicine, Brace Branchetta 20, 51 000 Rijeka, Croatia



Fig. 1 Scene photograph taken by the police



Fig. 2 Severely damaged (charred) tissue after high-voltage electrocution

teenager electrocuted on top of a train as she attempted to take a selfie [5]. Bogesha et al. reported two cases of electrocution from ionized air around high-voltage train wires through a phone that had been held high for photography [6].

Nowadays the mobile phone has almost completely replaced standard cameras for picture taking, being an indispensable tool in the hands of most youngsters. It enables the rapid taking of high quality photographs and then the almost immediate transmission to friends or on to social networks. However, the taking selfies to gain attention may involve a lack of situational awareness and temporary distraction that sometimes goes so far that people place themselves in hazardous settings, every so often with fatal consequences [7].

Unlike the majority of high-voltage accidents, the reported case did not involve any specific work-related activity [8]. Though the literature mentions railway workers being electrocuted from overhead cables, to the best of our knowledge, an electrocution connected to a parked railway wagon has never before been reported [9]. When evaluating a possible sex-based propensity for selfie-related accidents, although women take more selfies compared to men, about three-quarters of selfie deaths occur in males. This is perhaps because men are more likely to want to document their risk taking behavior with a selfie [10].



Fig. 3 Indurated skin with stiffening of the body precluding usual dissection

Thus, as in the majority of accidental electrocutions, the victim is in our case was a young male, although death during the winter season, as in this case, is less common [11].

In conclusion, we have presented an under-reported electrical hazard of a parked, unattended railway wagon, that was brought to light by two young males taking selfies.

Acknowledgments The authors wish to thank Robert Arbanas for providing technical details on the accident.

Compliance with ethical standards

Conflict of interest statement None.

Ethical approval Case handling was according to national and international ethical standards.

Informed consent Non-applicable.

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

1. Byard RW, Hanson KA, Gilbert JD, James RA, Nadeau J, Blackbourne B, et al. Death due to electrocution in childhood and early adolescence. *J Paediatr Child Health*. 2003;39:46–8.
2. Sleet DA, Ballesteros MF, Borse NN. A review of unintentional injuries in adolescents. *Annu Rev Public Health*. 2010;31:195–212.
3. Jain MJ, Mavani KJ. A comprehensive study of worldwide selfie-related accidental mortality: a growing problem of the modern society. *Int J Inj Control Saf Promot*. 2017;24:544–9.
4. Bansal A, Garg C, Pakhare A, Gupta S. Selfies: a boon or bane? *J Fam Med Prim Care*. 2018;7:828–31.
5. Flaherty GT, Choi J. The 'selfie' phenomenon: reducing the risk of harm while using smartphones during international travel. *J Travel Med*. 2016;23:tav026.
6. Bhogsha S, John JR, Tripathy S. Death in a flash: selfie and the lack of self-awareness. *J Travel Med*. 2016;23.
7. Leary MR, Baumeister RF. The need to belong: desire for interpersonal attachments as a fundamental human motivation. In: Zuckauskiene R, editor. *Interpersonal Development*. London: Routledge; 2017. p. 57–89.
8. Wick R, Byard RW. Electrocution and the autopsy. In: Tsokos M, editor. *Forensic pathology reviews*, vol. 5. New York: Humana Press; 2009. p. 53–66.
9. Taylor AJ, McGwin G Jr, Valent F, Rue LW 3rd. Fatal occupational electrocutions in the United States. *Inj Prev*. 2002;8:306–12.
10. Kim E, Lee JA, Sung Y, Choi SM. Predicting selfie-posting behavior on social networking sites: an extension of theory of planned behavior. *Comput Hum Behav*. 2016;62:116–23.
11. Wick R, Gilbert JD, Simpson E, Byard RW. Fatal electrocution in adults – a 30-year study. *Med Sci Law*. 2006;46:166–72.