Oral presentations MEDICO-LEGAL FIELD

O22 Medicolegal risk management of dental injuries during orotracheal intubation by the new custom-made dental protective splint

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Objective: General anesthesia requires endotracheal intubation which can cause dental lesions in some patients, especially in complex cases or in patients with dental vulnerabilities. The teeth most affected are the upper incisors and the main injuries are represented by fractures, subluxations, avulsions, enamel injuries, crown fractures, and root fractures. Dental damages can be reduced by using a dental protective device. A new custom-made dental splint with different thicknesses was designed to allow greater ease in the maneuvering of the anesthesiologist and mitigate dental damage risks. Methods: 24 patients with dental damages after orotracheal intubation in the period 2011-2020 were selected from Hospital Citta della Salute e della Scienza of Turin, Italy, to evaluate breach and causation as well as their oral condition. An anonymous questionnaire was also delivered to 21 anesthesiologists working in the same hospital, to evaluate the use of a standard dental protective device. An innovative custom-made dental splint was designed using an intraoral scanner and a 3D-printed splint with thicknesses ranging from 0.5 to 2.5 mm. Results: Teeth most involved in the lesions were central and lateral upper incisors 87.5%; lower incisors 12.5%; lower canine 4.1%. Anesthesiologists interviewed confirmed either sporadic use, or even the misuse of dental protective devices in 61,9% of the cases. Anesthesiologists interviewed reported in 66,67% they would use a thinner dental protective splint, if available. Conclusion: The misuse of a protective dental device is a contributing factor to dental damages and medicolegal claims. The new custom-made 3D printed dental protective splint (patent IT-202023000000291) proposed is a useful risk management tool that can mitigate or eliminate the risk of dental damage as the different thicknesses of this device will allow a wider use by anesthesiologists.

Keywords: endotracheal intubation, claims, dental splint