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# Laryngochoyoid Fractures in Suicidal Hanging: A Prospective Autopsy Study with an Updated Review and Critical Appraisal

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## Highlights

- The prospective study file compromised 178 cases of suicidal hangings.
- The overall incidence of laryngochoyoid fractures reached 72.5% (129 cases).
- Isolated fracture(s) to the thyroid cartilage was the commonest lesion (33.7%).
- The highest frequency of fractures was found in lateral hangings.
- Statistics showed a significant association of their occurrence with the age.

## Abstract

Laryngochoyoid fractures in hanging victims are one of the most studied and paradoxically contradictory topics in forensic pathology. According to literary sources, the incidence of laryngochoyoid fractures in hanging varies significantly, from 0% to 100%. To verify the diagnostic significance of these injuries in hanging, we prospectively and consecutively analyzed the occurrence of laryngochoyoid fractures in a group of 178 suicidal hanging victims (M/F = 150/28, aged 14-94 years, mean age = 50, complete suspension = 111 cases, partial suspension = 67 cases) in relation to selected variables (age, sex, weight, the completeness of body suspension, and ligature knot location). Altogether, we identified the following types of laryngochoyoid fractures in 129 of 178 cases (72.5%): isolated fracture(s) to the thyroid cartilage in 60 cases (33.7%), combined thyrohyoid fractures in 41 cases (23.0%), isolated fracture(s) to the hyoid bone in 28 cases (15.7%), and no fractures to the cricoid cartilage or the cervical vertebrae. The highest frequency of laryngochoyoid fractures was found in lateral hangings (right lateral: 26/34, 76.5%; left lateral: 31/37, 83.8%), whereas the lowest rate was found in anterior hangings (4/11, 36.4%). In lateral hangings, fractures more often occurred contralaterally to the suspension point. Statistical analysis revealed significant associations of the occurrence of laryngochoyoid fractures with the age of the victim

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