

EPIDEMIOLOGICAL FEATURES OF ENT ORGAN INJURIES

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Abstract: ENT (Ear, Nose, and Throat) injuries form a significant segment of overall trauma: they account for up to 15-20% of head and neck injuries, with approximately 2 million cases of nose, throat, or ear injuries recorded annually. Despite low mortality rates, the functional and social consequences are significant, primarily in men aged 18-45 - the main risk group. The dominant etiological factors remain road traffic accidents, interpersonal conflicts, sports-related and occupational incidents. According to forensic medical examination data, nasal injuries are most common (~42% of cases), followed by injuries to the laryngopharyngeal complex (~34%) and auditory organs (~17%). These epidemiological data confirm the need for further improvement of preventive programs and methods for forensic medical assessment of these injuries.

Keywords: epidemiology; ENT injuries; prevalence; causes; forensic medical statistics

Аннотация: Травмы ЛОР-органов формируют существенный сегмент общего травматизма: они составляют до 15–20 % повреждений головы и шеи, а ежегодно фиксируется ≈ 2 млн случаев травм носа, глотки или уха. Несмотря на низкую летальность, функциональные и социальные последствия значительны, прежде всего у мужчин 18–45 лет — основной группы риска. Доминирующими этиологическими факторами остаются дорожно-транспортные происшествия, межличностные конфликты, спортивные и производственные инциденты. По материалам судебно-медицинских экспертиз чаще травмируется нос (~42 % случаев), реже — гортанно-глоточный комплекс (~34 %) и органы слуха (~17 %). Эти эпидемиологические данные подтверждают необходимость дальнейшего совершенствования профилактических программ и методов судебно-медицинской оценки указанных повреждений.

Ключевые слова: эпидемиология; ЛОР-травмы; распространённость; причины; судебно-медицинская статистика

Relevance. ENT injuries account for a significant share of global trauma. According to WHO, injuries remain one of the leading causes of disability and premature mortality [1]. In the structure of head and neck injuries, the share of facial fractures reaches ≈ 15% [2]. The global analysis of GBD-2019 shows an increase in the number of facial skeleton fractures from 8.9 to 10.7 million cases over the period 1990–2019, with the majority occurring in the nasal bones [3]. The male population aged 18–45 is most vulnerable, which is associated with the predominance of road accidents and interpersonal conflicts [4]. At the same time, the frequency of diagnostic errors during the initial examination remains high even in specialized trauma centers, which emphasizes the need to improve forensic criteria for assessing harm to health [5].

Objective. To assess the epidemiological structure of ENT injuries and diagnostic errors for the development of recommendations for the prevention and forensic medical classification of the severity of harm to health.

Materials and methods. A total of 535 forensic medical reports (2014–2024) on ENT injuries were retrospectively analyzed. Gender and age data, causes of injuries, anatomical localization of damage,

clinical and radiological features, and final expert conclusions were studied. Statistical processing included the χ^2 criterion and multivariate logistic regression ($p < 0.05$).

Results:

Nasal fractures — 42%, damage to the laryngeal-pharyngeal complex — 34%, hearing injuries — 17%.

Men aged 18–45 years made up 72% of the sample.

Etiology: road traffic accidents — 46%, interpersonal conflicts — 32%, sports and industrial incidents — 22%.

In 24.5% of cases, the primary diagnosis was overestimated; the lack of CT visualization increased the risk of error (OR = 3.4; $p < 0.01$).

Combined injuries to soft tissues and bone structures were detected in 58% of patients; septum rupture — in 42–96% of nasal fractures.

Conclusions

1. Nasal injuries dominate the structure of ENT injuries, requiring priority preventive measures (passive means of transport safety, sports protectors).
2. Standardized visualization protocols and early involvement of an ENT specialist reduce the likelihood of diagnostic errors.
3. Forensic criteria for the severity of harm to health must be supplemented with an assessment of functional impairment and socioeconomic losses.

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