INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
SJIF 2019: 5.222 2020: 5.552 2021: 5.637 2022:5.479 2023:6.563
eISSN 2394-6334 https://www.ijmrd.in/index.php/imjrd Volume 11, issue 01 (2024)

SOME CASES FORENSIC CHARACTERISTICS OF DAMAGE TO THE HEARING ORGANS

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Abstract: The case materials, medical documents, results of additional research and reports (reports) of forensic medical examinations of 92 cases related to mechanical injuries to the hearing organs were studied. If damage to the middle or inner ear is suspected, consultation with ENT specialists and additional research methods were carried out in order to determine the severity of loss of hearing function and the presence of concomitant injuries to adjacent organs.

Keywords: Organ of hearing, method, damage, treatment, forensic assessment.

INTRODUCTION

Damage to the hearing organs is one of the most common pathologies, accounting for 5.7% of all injuries to the ENT organs. Forensic medical aspects of damage to the hearing organs have not been sufficiently studied. Criteria have not been developed to determine the degree of severity, duration and assessment of the mechanism of injury in cases of damage to the hearing organs, taking into account not only the nature of the damage, but also concomitant injuries or diseases, possible complications, and consequences of injuries [1, 2].

MATERIALS AND METHODS

The case materials, medical documents, results of additional research and reports (reports) of forensic medical examinations of 92 cases related to mechanical injuries of the hearing organs were studied.

Expert assessment of hearing damage was based on an objective examination of the victims. At the same time, the condition of the skin and soft tissues, the shape of the auricle, and the absence or presence of external hearing organs were assessed. To study in detail the nature of damage to the tympanic membrane (TM), it was conventionally divided into four parts – quadrants.

RESULTS AND DISCUSSION

When distributing injuries depending on the gender of the victims, it was revealed that damage to the hearing organs is observed predominantly in males (97%). The most common injuries were observed at the age of 18–35 years (72.3%). When determining the circumstances of the injury, it was revealed that in 68 (73.9%) cases the damage was received as a result of domestic and street trauma, in 24 (26.1%) cases - as a result of a car injury inside the cabin. Among the injuries to the hearing organs (92), injuries to the outer ear (81) predominated, and injuries to the middle and inner ear were noted much less frequently and were found in 8 and 3 victims, respectively [3].

It was established that the impact of blunt hard objects mainly damaged the outer and middle ear. In all cases, the injuries were unilateral. In this case, in 17 cases abrasions were noted, in 30 – bruises, in 10 – with soft tissue bruises, in 24 – wounds in the area of the auricle and external auditory canal. In 8 (8.7%) cases, along with soft tissue injuries, the ear injury was accompanied

by a rupture of the eardrum. Damage to the inner ear (labyrinth) and the pyramid of the temporal bone was observed in severe combined traumatic brain injuries (3 cases).

Abrasions were noted over the entire surface of the auricle in the form of local and widespread injuries of a linear, semi-oval shape. Bruises with soft tissue contusions were located in the area of the helix, antihelix and earlobe. Contused wounds of the auricle were identified as a result of car injuries inside the passenger compartment; they were characterized by the presence of uneven sagging walls, a hardened surface and pronounced swelling, and were localized in the area of the helix and antihelix.

In 8 (8.7%) cases, in addition to ear injuries, the victims also had fractures of the nose and adjacent structures, in 3 (3.3%) - fractures of the skull bones, fractures of the upper - in 5 (5.4%)) and lower extremities – in 2 (2.2%), rib fractures in 3 (3.3%) victims, in 71 (77.1%) cases, no bone damage was noted in other systems.

Injuries to the ear with concomitant fractures of the nose and adjacent structures (8.7%), fractures of 3 ribs (3.3%), bones of the upper (5.4%) and (2.8%) lower extremities, assessed according to the criterion of the duration of a health disorder as of moderate severity, causing a health disorder for a period of more than 21 days and less than 4 months. Damage to the hearing organs, accompanied by fractures of the skull bones (3.3%) and signs of concussion and contusion of the brain, were assessed as serious bodily injury based on the danger to life.

Injuries to the inner ear (labyrinth) and the pyramid of the temporal bone were observed relatively rarely and were detected in severe traumatic brain injuries accompanied by fractures of the base of the skull and the pyramid of the temporal bone. Moreover, against the backdrop of the severe general condition of the victims, diagnosing damage to the hearing organs, especially in the early stages after injury, was difficult. In this regard, damage to the hearing organs in 2 (66.7%) cases was diagnosed late, after stabilization of the patient's general condition, and in 1 (33.3%) case was not diagnosed in the clinic. During the forensic medical examination, the condition of the victims in all cases was assessed based on the dominant injuries and conditions that caused a threat to life.

CONCLUSION

Injuries to the hearing organs are more often observed in males. Among the main causes of traumatic injuries are domestic and street trauma. The criteria for assessing the severity of damage to the outer ear can be the duration of the health disorder, and for the middle ear - the amount of persistent loss of general ability to work, taking into account the presence of concomitant injuries. Traumatic injuries to the TM were restored in all (100%) of those studied. Justification of the severity of damage is possible when conducting complex studies: clinical, audiological, radiological, CT or MSCT studies.

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