

H49 A Fatal Case of Retropharyngeal Abscess Following a Cervical Penetrating Wound

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Learning Overview: After attending this presentation, attendees will better understand the challenges constituted by potential infectious complications of cervical district injuries.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by discussing a case of death due to retropharyngeal abscess following a penetrating wound at the neck.

A 56-year-old man with a clinical history of Parkinson's disease presented to the emergency room due to a penetrating wound at the anterior cervical region as a result of a reported domestic accident with a fire poker. Physical examination revealed a deeply penetrating wound that extended through the full thickness of the thyroid cartilage, reaching the laryngeal cavity. This finding was confirmed by laryngoscopy. Following disinfection and suturing of the wound, tetanus prophylaxis, antibiotics, corticosteroids, and Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), the patient was discharged. After nine days, antibiotic therapy was extended due to purulent material in the larynx. The next day, the patient was found dead at home. A medicolegal autopsy was requested in order to determine the cause of death.

External examination revealed, at the level of the lower edge of thyroid cartilage, a linear scar 1.1cm in length, in a healing phase. The right laterocervical skin region demonstrated a greenish discoloration. At autopsy, a voluminous collection of purulent material of green-brown color was detected in the retropharyngeal region; the lesion was removed *en bloc* with the main structures of the neck, and subsequently fixed in 10% buffered formalin. Other organs were unremarkable for any significant findings.

Subsequent gross examination on the formalin-fixed organs allowed reconstruction of the tract previously produced by the foreign body. Furthermore, it was possible to better describe the walls of the abscess cavity identified during autopsy, which measured about eight centimeters in diameter, and carry out targeted histological sampling. Microscopic examination confirmed an inflammatory reaction while the wall of the abscess cavity consisted of connective tissue structurally subverted by widespread and intense necrosis, fibroblastic proliferation, and leukocyte infiltration. In the lungs, leukocyte infiltrates were found at the peri-bronchial level, suggestive of interstitial pneumonia; no other significant findings were seen in other organs.

This case report presents an atypical infectious complication of a penetrating wound to the neck. This complication is reported in pediatric subjects and only rarely observed and described, in the international scientific literature, in adults. The pathogenetic mechanisms involved in death can constitute a challenge for the medical examiner, especially in the absence of a full-blown septic picture. In the present case, the results suggest a mechanism of respiratory insufficiency based on a two factors: (1) by mechanical obstruction of the upper airways caused by the compression exerted by the abscess, and (2) by the reduction of respiratory exchanges secondary to infection in the lungs.

Retropharyngeal Abscess, Neck Injury, Autopsy Investigation