

Fatal cut-throat injuries: a retrospective comparative autopsy study of homicidal and suicidal deaths

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Abstract

Background

Fatal cut-throat injuries may create substantial medicolegal difficulty because homicidal and suicidal deaths can share external and internal findings. Direct autopsy-based comparisons containing sufficient numbers of both manners of death remain limited. This study compared wound morphology, deep cervical injuries, toxicological findings, and selected scene characteristics in fatal cut-throat injuries.

Results

Forty-three deaths examined at a forensic autopsy centre in Türkiye between 2021 and 2025 were evaluated: 29 homicides, 12 suicides, and two deaths of undetermined manner. The undetermined cases were described but excluded from comparative analyses. Defence injuries, carotid artery injury, tracheal opening, and vertebral injury were more frequent among homicides, whereas neck and wrist hesitation injuries, wound tailing, and drug positivity were more frequent among suicides. Wound location, orientation, number of neck wounds, multiple wound tracks, jugular vein injury, laryngeal injury, and oesophageal injury did not differ significantly between the two groups. Considerable overlap remained across the broader injury pattern.

Conclusions

The observed differences are group-level associations rather than independent diagnostic criteria for manner of death. Fatal cut-throat injuries require integrated assessment of external and internal injury patterns, toxicology, scene findings, and other investigative evidence. The findings are exploratory and should be validated in larger multicentre series.

Background

Cut-throat injuries represent a challenging form of sharp-force trauma in forensic pathology because determination of the manner of death often requires the combined interpretation of autopsy findings, wound morphology, scene investigation, and circumstantial evidence (Bhagat et al. 2025; Askay et al. 2024; Abder-Rahman et al. 2024; Yadav et al. 2016). Although homicidal cut-throat injuries are encountered more commonly, suicidal and accidental cases may demonstrate overlapping forensic features, occasionally resulting in substantial medicolegal uncertainty (Askay et al. 2024; Abder-Rahman et al. 2024; Yadav et al. 2016; Singh et al. 2023; Jain et al. 2014). The neck contains major vascular, airway, neurologic, and digestive structures within a confined anatomical region; consequently, sharp-force injuries to this area may rapidly become fatal through exsanguination, airway compromise, or combined vascular and respiratory mechanisms (Bhagat et al. 2025; Abder-Rahman et al. 2024; Yadav et al. 2016; Singh et al. 2023; Demirci et al. 2008). Evaluation of wound localization, direction, depth, tissue

involvement, vascular injury, hesitation injuries, defence injuries, and associated scene findings may therefore provide important information during medicolegal assessment (Yadav et al. 2016; Singh et al. 2023; Vidanapathirana and Samaraweera 2016).

Previous forensic studies have reported that homicidal cut-throat injuries are more frequently associated with extensive soft-tissue damage, defence injuries, and evidence of interpersonal struggle, whereas suicidal injuries more commonly demonstrate hesitation injuries and other features compatible with self-infliction (Yadav et al. 2016; Vidanapathirana and Samaraweera 2016). Nevertheless, considerable overlap exists between homicidal and suicidal cases, and atypical presentations may complicate interpretation (Singh et al. 2023; Jain et al. 2014; Gök and Fedakar 2019). In deaths without reliable witnesses or clear scene reconstruction, this overlap increases the importance of detailed autopsy examination and integrated assessment of all available medicolegal information (Singh et al. 2023; Vidanapathirana and Samaraweera 2016). Suicidal cut-throat injuries are relatively uncommon compared with other suicide methods, but self-inflicted neck wounds may occasionally demonstrate severe or unusual patterns, including extensive vascular injury, circumferential wounds, multiple wound tracks, or associated sharp-force injuries involving other body regions (Fouda and Abuidrees 2020; Solarino et al. 2011; Marak and Singh 2005). Conversely, homicidal cut-throat injuries may sometimes show features that overlap with those usually associated with self-infliction, particularly when scene information is limited or potentially misleading (Singh et al. 2023; Vidanapathirana and Samaraweera 2016; Gök and Fedakar 2019).

Accidental cut-throat injuries are rare but remain part of the differential diagnosis of sharp-force neck trauma. Reported mechanisms include motor vehicle collisions, shattered windshields, industrial accidents, machinery-related trauma, and injuries caused by broken glass fragments (Demirci et al. 2008; Swain et al. 2018; Karger et al. 2001). Because the external appearance of such wounds may initially resemble homicidal or suicidal sharp-force trauma, interpretation requires correlation of autopsy findings with the circumstances and reconstruction of the incident (Demirci et al. 2008; Swain et al. 2018). Scene reconstruction, including bloodstain pattern interpretation when adequately documented, may provide additional contextual information in selected equivocal or accidental cases (Mileva et al. 2024).

Previous clinical and autopsy studies have largely described mixed or predominantly homicidal case series, whereas direct comparisons of homicidal and suicidal fatal cut-throat injuries remain limited (Onotai and Ibekwe 2010; Rao 2015; Askay et al. 2024). The present study compared external wound morphology, deep cervical injuries, toxicological findings, and selected scene characteristics in 29 homicidal and 12 suicidal deaths examined at a high-volume forensic autopsy centre. The aim was to identify group-level differences and areas of overlap that may contribute to an integrated medicolegal assessment of manner of death.

Methods

Study design and setting

This retrospective autopsy-based study was conducted at a high-volume forensic autopsy centre in Türkiye [institution blinded for peer review]. Between January 2021 and December 2025, a total of 27,687 medicolegal autopsies were performed at the centre. Autopsy records from this period were retrospectively reviewed to identify fatal cut-throat injuries. Cases were eligible when a sharp-force injury of the neck represented the principal fatal injury and the available autopsy documentation permitted reliable characterization of the injury. Exclusion criteria were nonfatal sharp-force neck injuries, advanced decomposition or putrefaction preventing reliable wound assessment, severe thermal destruction, major skeletalization, insufficient autopsy documentation, uncertain primary mechanism of neck injury, and cases in which the neck injury was not considered the principal cause of death. Cases were included irrespective of age. After application of these criteria, 43 fatal cut-throat injury cases were included in the study.

Case identification and forensic evaluation

Cases were identified through a systematic search of the institutional forensic archive database (FileMaker Pro; Claris International Inc., Santa Clara, CA, USA) using predefined Turkish-language terms related to fatal cut-throat injuries and sharp-force neck trauma. Retrieved records were individually reviewed using autopsy numbers, judicial file identifiers, and institutional archive records to exclude duplicate or unrelated cases. For each case, available medicolegal records were reviewed, including autopsy reports and photographs, crime scene reports and photographs, toxicological and histopathological reports when performed, witness statements, emergency medical records, available hospital records, and judicial investigation documents. Data were extracted using predefined study variables, and ambiguous or inconsistent entries were rechecked against the available source records before analysis.

All autopsies had been performed according to standard forensic autopsy procedures at the study centre. Layered cervical dissection was performed to evaluate major vascular structures, the larynx and trachea, oesophagus, deep cervical soft tissues, and posterior extension of the wound. The manner of death recorded in the medicolegal file represented the final official determination based on the original death investigation and integrated assessment of autopsy findings, wound morphology, scene characteristics, toxicological findings, investigative information, and circumstantial evidence. Manner of death was not reassigned for the purposes of the present study. Cases classified as undetermined were retained for descriptive reporting but excluded from homicide–suicide comparative analyses. Comparisons between homicidal and suicidal cases were interpreted as descriptive associations within the context of these original medicolegal classifications and were not used to validate independent diagnostic criteria.

Variables and operational definitions

Demographic variables included age and sex. Scene-related variables included incident setting, indoor or outdoor location, home environment, presence of a sharp weapon at the scene, documented evidence of struggle, and scene disturbance. Evidence of struggle was recorded when the available scene or investigative documentation explicitly described findings compatible with physical struggle. Scene disturbance referred to documented displacement or disruption of objects or other environmental alterations at the scene.

External neck injury variables included anatomical level of the principal wound, wound orientation, wound tailing, number of neck incised wounds, multiplicity of wound tracks, neck hesitation injuries, wrist hesitation injuries, defence injuries, and associated sharp-force injuries outside the neck. Neck localization was categorized as upper, middle, or lower according to the anatomical level of the principal wound. Wound orientation was categorized as horizontal when the principal wound followed a predominantly transverse course and as oblique when a clear upward or downward inclination was present.

Hesitation injuries were defined as superficial, short, repetitive incised wounds adjacent to the principal neck wound or, in the case of wrist hesitation injuries, involving the wrist without deep structural penetration. Tailing was defined as a progressively superficial and narrowing extension at one end of an incised wound. Defence injuries were recorded when sharp-force injuries involving the hands or forearms had a morphology and distribution compatible with attempts to ward off or intercept an assault. Multiple wound tracks were defined as more than one distinct sharp-force trajectory through the cervical soft tissues. Internal cervical findings included carotid artery injury, jugular vein injury, laryngeal injury, tracheal opening, oesophageal injury, vertebral or prevertebral extension, and aspiration of blood. Tracheal opening was recorded when the sharp-force wound produced direct communication with the tracheal lumen. Vertebral injury referred to documented sharp-force involvement of the cervical vertebral structures.

Toxicological examination was performed in all cases. Toxicological findings were obtained from the available laboratory reports. Ethanol positivity and drug positivity were evaluated separately. Drug positivity was defined as documented detection of one or more non-ethanol drugs in the toxicological examination. Toxicological findings were recorded as laboratory findings without attribution of psychiatric, behavioural, or motivational significance. Histopathological findings were reviewed when available but were not included as comparative variables because histopathological examination had not been performed systematically in all cases.

Missing data

Missing information was handled on a variable-by-variable basis, and no statistical imputation was performed. A finding was coded as absent only when the available documentation permitted its presence or absence to be determined; otherwise, it was treated as missing. Analyses of incompletely

documented variables were restricted to cases for which the relevant information was available, with corresponding denominators reported where appropriate.

Statistical analysis

Statistical analyses were performed using IBM SPSS Statistics (IBM Corp., Armonk, NY, USA). Continuous variables were summarized as mean $\pm$ standard deviation or median and range, according to their distribution. Categorical variables were expressed as frequencies and percentages. Comparative analyses included cases classified as homicide or suicide, whereas cases with an undetermined manner of death were excluded from between-group statistical comparisons. Categorical variables were compared using Pearson's chi-square test when test assumptions were satisfied and Fisher's exact test when expected cell counts were small. Continuous variables were compared using Student's t-test or the Mann–Whitney U test, as appropriate. All tests were two-sided, and a p value < 0.05 was considered statistically significant. Given the limited number of manner-defined cases, particularly suicides, and the presence of sparse cells for several variables, multivariable modelling was not undertaken. The statistical analyses were therefore limited to descriptive and univariable comparisons.

No a priori power calculation was performed because all eligible fatal cut-throat injuries identified during the predefined five-year study period were included. Given the limited sample size, sparse cells, and number of univariable comparisons, the analyses were considered exploratory. No adjustment for multiple testing was applied; exact p values are reported and should be interpreted as hypothesis-generating.

Use of generative artificial intelligence

ChatGPT (OpenAI; accessed August 2026) was used solely for English-language refinement and manuscript organization. All suggestions were independently reviewed and revised by the authors, who take full responsibility for the final content. No identifiable or case-level data were entered into the tool.

Results

During the study period, 43 fatal cut-throat injury cases were identified among 27,687 medicolegal autopsies performed at the study centre, representing approximately 0.16% of all autopsies. The mean age was 39.5 ± 16.8 years (range, 6–71 years), and 22 decedents (51.2%) were male. The manner of death was homicide in 29 cases (67.4%), suicide in 12 (27.9%), and undetermined in 2 (4.7%). No death was classified as accidental. The two undetermined cases were excluded from homicide–suicide comparative analyses.

Most deaths occurred in indoor settings, particularly residences. Demographic and selected scene-related characteristics did not differ significantly between homicidal and suicidal deaths, with the exception of documented evidence of struggle. Among cases for which this scene variable was available, evidence of struggle was recorded in 9 of 11 homicidal deaths and in none of the 3 suicidal

deaths ($p = 0.027$). Scene disturbance was also more frequent among homicides, although the difference was not statistically significant. Demographic, scene-related, and toxicological findings are summarized in Table 1.

Table 1
Demographic, scene-related, and toxicological characteristics according to manner of death

Variable	Homicide (n = 29)	Suicide (n = 12)	p value
Age, years, mean $\pm$ SD	37.8 $\pm$ 16.1	42.7 $\pm$ 17.9	0.381
Male sex	15 (51.7)	6 (50.0)	0.923
Indoor scene	22 (75.9)	10 (83.3)	0.612
Home environment	19 (65.5)	10 (83.3)	0.281
Weapon present at scene	7 (24.1)	4 (33.3)	0.728
Evidence of struggle*	9/11 (81.8)	0/3	0.027
Scene disturbance*	7/11 (63.6)	0/3	0.192
Drug positivity	5 (17.2)	8 (66.7)	0.004

Several external wound characteristics differed between homicidal and suicidal deaths. Wound tailing was more frequent in suicides (11/12 vs. 12/29; $p = 0.005$), whereas defence injuries were observed in 16 of 29 homicides and in none of the suicides ($p = 0.001$). Neck hesitation injuries were more frequent in suicides (8/12 vs. 4/29; $p = 0.002$), as were wrist hesitation injuries (8/12 vs. 0/29; $p < 0.001$). In contrast, wound localization, orientation, number of neck wounds, and multiplicity of wound tracks did not differ significantly between the two groups.

Differences were also observed in deep cervical injuries. Carotid artery injury was identified in 17 of 29 homicidal deaths but in none of the 12 suicidal deaths ($p < 0.001$). Tracheal opening (14/29 vs. 1/12; $p = 0.030$) and vertebral injury (13/29 vs. 1/12; $p = 0.033$) were also more frequent among homicides. Jugular vein, laryngeal, and oesophageal injuries did not differ significantly by manner of death. Detailed external and internal injury findings are presented in Table 2. Representative autopsy findings from suicidal and homicidal fatal cut-throat injuries are shown in Figs. 1 and 2, respectively.

Table 2
External and internal injury findings according to manner of death

Variable	Homicide (n = 29)	Suicide (n = 12)	p value
External wound characteristics			
Neck localization			0.181*
Upper neck	6 (20.7)	6 (50.0)	
Middle neck	16 (55.2)	5 (41.7)	
Lower neck	7 (24.1)	1 (8.3)	
Horizontal wound orientation	15 (51.7)	9 (75.0)	0.296
Tailing present	12 (41.4)	11 (91.7)	0.005
Median number of neck incised wounds	2	2	0.271
Multiple wound tracks	17 (58.6)	6 (50.0)	0.734
Neck hesitation injuries	4 (13.8)	8 (66.7)	0.002
Wrist hesitation injuries	0	8 (66.7)	< 0.001
Defence injuries	16 (55.2)	0	0.001
Internal cervical and associated findings			
Carotid artery injury	17 (58.6)	0	< 0.001
Jugular vein injury	26 (89.7)	11 (91.7)	1.000
Tracheal opening	14 (48.3)	1 (8.3)	0.030
Laryngeal injury	16 (55.2)	5 (41.7)	0.505
Oesophageal injury	6 (20.7)	1 (8.3)	0.651
Vertebral injury	13 (44.8)	1 (8.3)	0.033
Other sharp-force injuries	18 (62.1)	5 (41.7)	0.307
Blood aspiration	10 (34.5)	1 (8.3)	0.128

Drug positivity was more frequent among suicidal than homicidal deaths (8/12 vs. 5/29; $p = 0.004$). Blood aspiration was observed more frequently in homicides (10/29 vs. 1/12), although this difference was not statistically significant ($p = 0.128$).

Discussion

This study directly compared external wound morphology, deep cervical injuries, toxicological findings, and selected scene characteristics in homicidal and suicidal fatal cut-throat injuries. The findings extend

earlier descriptive and mixed-manner studies by evaluating between-group patterns across several medicolegal domains (Rao 2015; Askay et al. 2024). Defence injuries, carotid artery injury, tracheal opening, and vertebral injury were more frequent among homicides, whereas hesitation injuries, wound tailing, and drug positivity were more frequent among suicides. These associations are exploratory and should be interpreted as components of an integrated medicolegal assessment rather than as independent diagnostic criteria.

Defence injuries showed one of the clearest differences between the groups and were identified exclusively among homicide victims in the present series. Previous studies have similarly demonstrated that homicidal cut-throat injuries frequently show defence injuries, evidence of struggle, and associated upper-extremity injuries reflecting attempts at self-protection (Yadav et al. 2016; Vidanapathirana and Samaraweera 2016). Defence injuries are therefore relevant components of the overall injury pattern but should not be regarded as definitive evidence of homicide. Their absence does not exclude homicide, because homicidal cut-throat fatalities without classical defensive patterns have been documented, particularly among individuals who were intoxicated, restrained, attacked unexpectedly, or otherwise unable to respond effectively (Abder-Rahman et al. 2024; Singh et al. 2023). Accordingly, defence injuries should be interpreted together with wound morphology, associated injuries, and investigative information rather than in isolation.

Carotid artery injury was substantially more frequent among homicidal deaths in the present study. Previous forensic literature has likewise described more extensive arterial injury in homicidal sharp-force neck trauma (Abder-Rahman et al. 2024; Yadav et al. 2016; Vidanapathirana and Samaraweera 2016). Major vascular disruption is also well recognized as an important contributor to rapid exsanguination and lethality in severe neck trauma (Gilyoma et al. 2014; Ahmed et al. 2015; Chakraborty et al. 2016). However, the present findings should not be interpreted as indicating that carotid injury is specific to homicide. Rather, the observed difference reflects a group-level association within this series and should be considered together with other autopsy and investigative findings.

Jugular vein injury, in contrast, did not differ significantly between homicidal and suicidal groups despite its high prevalence in both. This finding demonstrates that not all internal cervical injuries showed the same relationship with manner of death. Tracheal opening and vertebral injury were significantly more frequent among homicidal deaths. Previous forensic studies have similarly emphasized that deep penetration involving airway structures or posterior cervical tissues is more frequently encountered in severe assaultive sharp-force trauma (Abder-Rahman et al. 2024; Vidanapathirana and Samaraweera 2016; Özdemir et al. 2013). Nevertheless, these injuries were not confined exclusively to homicide, and their interpretation requires consideration of the complete injury pattern.

Severe internal injury was not restricted to homicidal deaths. Previous reports have documented suicidal cut-throat injuries with extensive tissue destruction and atypical wound patterns that may initially raise suspicion of homicide (Bhagat et al. 2025; Singh et al. 2023; Fouda and Abuidrees 2020; Solarino et al. 2011; Patil et al. 2016; Shetty et al. 2009). Suicidal sharp-force fatalities with remarkably deep neck

injuries may therefore present as medicolegal masquerades (Singh et al. 2023; Solarino et al. 2011). Atypical suicidal wounds and unusual wound trajectories may likewise complicate forensic interpretation (Patil et al. 2016). In the present study, neck localization, wound orientation, number of neck wounds, and multiplicity of wound tracks did not differ significantly between homicidal and suicidal deaths. These findings further illustrate that injury severity, depth, orientation, or multiplicity alone should not determine the interpretation of manner of death.

Both neck hesitation injuries and wrist hesitation injuries were significantly more frequent among suicidal deaths. Classical forensic literature recognizes hesitation marks as findings commonly associated with self-inflicted sharp-force trauma because they may represent repeated tentative incisions preceding the fatal injury (Yadav et al. 2016; Singh et al. 2023; Fouda and Abuidrees 2020). Previous studies have similarly reported superficial tentative cuts in suicidal cut-throat injuries (Marak and Singh 2005; Patil et al. 2016; Sharma et al. 2013; Acharya et al. 2022). However, hesitation-type injuries should be interpreted cautiously because superficial parallel cuts may occasionally occur in other circumstances (Singh et al. 2023; Jain et al. 2014). Suicidal cut-throat fatalities may also occur without classical hesitation injuries, particularly in atypical self-inflicted sharp-force deaths (Jain et al. 2014; Sharma et al. 2013; Cirielli et al. 2024). Wound tailing was likewise significantly more frequent among suicidal fatalities and has commonly been described in association with self-inflicted incised wounds (Yadav et al. 2016; Vidanapathirana and Samaraweera 2016). Nevertheless, wound directionality and tailing may be influenced by body position, movement, handedness, and weapon characteristics and therefore should not be interpreted independently (Abder-Rahman et al. 2024; Vidanapathirana and Samaraweera 2016).

Scene-related findings provided additional contextual information. Evidence of struggle was more frequently documented among homicidal deaths, consistent with previous forensic literature emphasizing the value of scene reconstruction in sharp-force fatalities (Singh et al. 2023; Vidanapathirana and Samaraweera 2016; Swain et al. 2018). Suicidal cut-throat injuries, in contrast, have commonly been described in comparatively controlled environments with preserved weapon accessibility and limited scene disturbance (Yadav et al. 2016; Singh et al. 2023; Fouda and Abuidrees 2020). Most deaths in the present series occurred indoors, particularly in residential environments, consistent with previous reports describing domestic or semi-private settings in both homicidal and suicidal cut-throat injuries (Askay et al. 2024; Abder-Rahman et al. 2024). However, detailed scene variables were available for only a subset of cases, and these observations should therefore be interpreted cautiously and in conjunction with autopsy and investigative findings.

Drug positivity was significantly more frequent among suicidal fatalities in the present study. Previous literature has described associations between intoxication and self-destructive behaviour (Singh et al. 2023; Gök and Fedakar 2019). However, the present toxicological data do not establish whether detected substances reflected therapeutic use, substance misuse, intentional intoxication, or clinically relevant intoxication at the time of injury. They likewise do not permit inference regarding psychiatric illness or the behavioural circumstances preceding death. The observed association should therefore be regarded

as a descriptive finding and interpreted together with medical, toxicological, scene, and investigative information.

Two fatalities remained classified as undetermined despite integrated autopsy examination and medicolegal investigation. Previous reports have similarly described cut-throat deaths in which overlapping wound morphology, ambiguous circumstances, or limited investigative information prevented definitive classification (Singh et al. 2023; Jain et al. 2014). Recent reports have further emphasized that manner-of-death determination may remain unresolved when scene findings, wound morphology, and circumstantial evidence provide competing interpretations (Gebremariam et al. 2025). Retaining an undetermined classification when the available evidence does not support a sufficiently confident conclusion is therefore preferable to overinterpretation of individual findings. Recent efforts to standardize manner-of-death assessment in sharp-force fatalities have included the development of the MODSIT score, which integrates autopsy, toxicological, and scene-related variables in cases of single stab injuries to the trunk. Although this model is not directly applicable to cut-throat injuries, it similarly illustrates the potential value, and inherent limitations, of integrating multiple sources of forensic evidence when evaluating manner of death (Berg et al. 2025).

Overall, the present findings demonstrate that defence injuries, carotid artery injury, tracheal opening, vertebral injury, hesitation injuries, and wound tailing showed different distributions between homicidal and suicidal fatal cut-throat injuries, while substantial overlap remained across the broader injury pattern. These findings should not be interpreted as independent diagnostic criteria. Rather, they support the cumulative evaluation of wound morphology, internal cervical injuries, associated traumatic findings, toxicological results, scene findings, and other investigative information when assessing manner of death in fatal cut-throat injuries.

Limitations

Several limitations should be considered. First, the retrospective design resulted in incomplete documentation of some investigative variables, particularly scene-related findings, and these analyses were therefore limited to cases with available information. Second, the manner-of-death classifications used in the study were the original medicolegal determinations, which had been established using some of the same autopsy, scene, and investigative findings examined in the present analysis. This introduces potential incorporation bias and limits interpretation of the observed associations as independent diagnostic evidence. Retrospective review was also performed with access to the original manner-of-death classification, creating the possibility of observer bias for morphology-based variables. Third, the relatively small number of cases, particularly suicides, limited statistical power and precluded reliable multivariable modelling. Fourth, multiple univariable comparisons were performed without multiplicity adjustment; statistically significant findings should therefore be interpreted as exploratory and require independent validation. Finally, this was a single-centre study conducted within a centralized medicolegal autopsy system, which may limit the generalizability of the findings to other forensic settings.

Conclusions

Fatal cut-throat injuries demonstrate substantial morphological overlap between homicidal and suicidal deaths. In the present series, defence injuries, carotid artery injury, tracheal opening, and vertebral injury were more frequent among homicides, whereas hesitation injuries and wound tailing were more frequent among suicides. These differences represent group-level associations and should not be interpreted as independent diagnostic criteria for manner of death. The findings reinforce the importance of integrating external and internal injury patterns with toxicological, scene, circumstantial, and investigative information when evaluating fatal cut-throat injuries, particularly in equivocal cases. Given the sample size and exploratory analysis, the findings should be validated in larger multicentre studies before use in formal decision-support frameworks.

Abbreviations

MODSIT

Manner of Death in Stab Injuries to the Trunk

SD

standard deviation

SPSS

Statistical Package for the Social Sciences.

Declarations

Declarations

Consent for publication

Not applicable. The manuscript contains no identifiable individual data.

Table Legends

Note

Data are presented as n (%) unless otherwise indicated. Comparisons were performed between homicidal and suicidal deaths only. *Calculated among cases for which the respective scene-related information was available.

Note

Data are presented as n (%) unless otherwise indicated. Comparisons were performed between homicidal and suicidal deaths only. *Overall comparison of neck localization using the Fisher-Freeman-Halton exact test.

Author Contribution

M.D. conceived and designed the study, curated the data, performed the formal analysis and investigation, developed the methodology, validated the findings, and drafted the manuscript. Ç.A. contributed to data curation, formal analysis, and drafting of the manuscript. İ.Ç. contributed to data curation, formal analysis, and investigation. Y.A. supervised the study, contributed to visualization, and critically reviewed and edited the manuscript. All authors read and approved the final manuscript.

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Data Availability

The data supporting the findings of this study are not publicly available because they contain sensitive medicolegal information and are subject to institutional and legal restrictions. Requests for access to de-identified data may be directed to the corresponding author and will be considered subject to authorization by the Council of Forensic Medicine.

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Figures

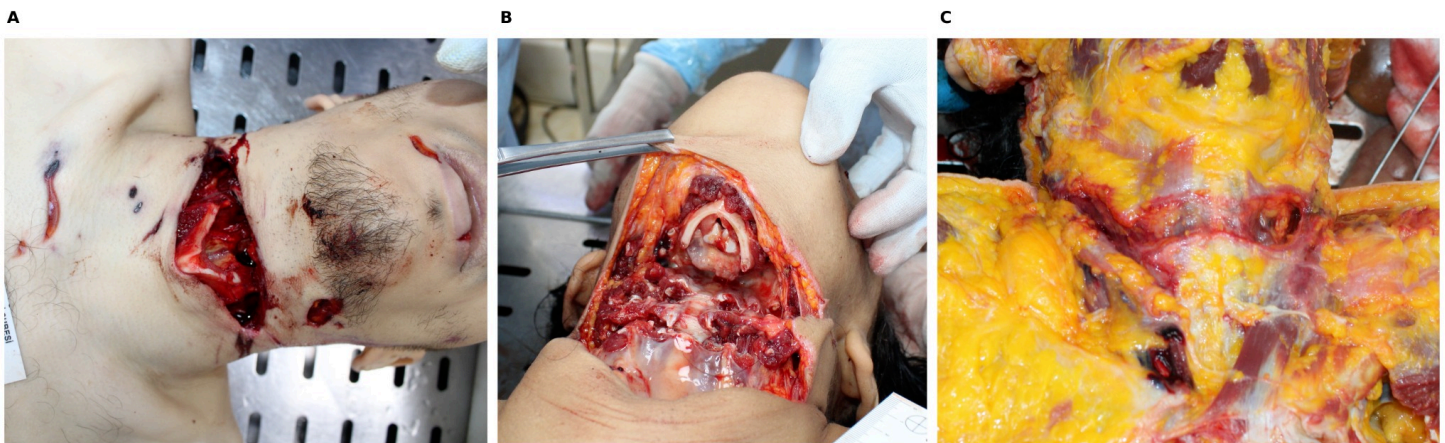


Figure 1

Representative autopsy findings in suicidal fatal cut-throat injuries

- (A) Major incised neck wound accompanied by superficial accessory incisions.
- (B) Deep cervical injury with exposure of underlying laryngotracheal structures.
- (C) Cervical dissection demonstrating the extent of deep soft-tissue injury.



Figure 2

Representative autopsy findings in homicidal fatal cut-throat injuries

- (A) Transverse incised neck wound with marked tissue gaping and deep cervical involvement.
- (B) Extensive sharp-force injury involving the lateral neck and deep soft tissues.
- (C) Cervical dissection demonstrating deep extension of the sharp-force injury into major neck structures.