

# Enhancing forensic medicine consultation in hospitals: Addressing limitations in file-based forensic evaluations of firearm injuries and proposing early interdisciplinary examination practices

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## ABSTRACT

**BACKGROUND:** The forensic evaluation of non-fatal firearm injuries is crucial for legal proceedings; however, the quality and completeness of medical documentation often pose significant challenges. This study examines the limitations of retrospective, file-based forensic assessments and the impact of missing forensic and medical data on case evaluations. It also emphasizes the importance of early forensic consultation during hospitalization to improve documentation accuracy and legal outcomes.

**METHODS:** A retrospective observational study was conducted on 245 firearm injury cases referred to a forensic medicine branch directorate in 2024. The study analyzed ballistic findings, deficiencies in medical documentation, assessments of vascular injuries, and the time required to complete forensic reports. Cases were categorized based on the completeness of medical records and the need for a second forensic evaluation.

**RESULTS:** Differentiation between entry and exit wounds was missing in 53.9% of cases, and shooting distance assessment was documented in only one case. The type of ammunition was not recorded in 42.4% of cases. In 52.7% of cases, medical documentation was incomplete, with missing hospital records, imaging studies, and specialist consultations. Vascular injury assessments were absent in 43.0% of extremity injury cases. Although multiple projectile wounds were observed in 35.5% of cases, only 25.3% had sufficient documentation to evaluate each wound separately. The average time to complete a forensic report was 172.5 days for cases finalized in a single evaluation, while cases requiring additional medical records had a prolonged total duration of 230.8 days. Additionally, forensic consultation was absent in all cases, and forensic reports requested during hospitalization often resulted in preliminary rather than definitive reports.

**CONCLUSION:** The findings emphasize the critical role of emergency physicians in forensic evaluations, as missing or incomplete medical documentation significantly impairs the accuracy of forensic assessments and legal decisions. Implementing structured forensic consultation protocols within hospitals, ensuring the completeness of judicial documentation requests, and fostering interdisciplinary collaboration between forensic experts and emergency physicians can substantially improve the quality of forensic reporting. Establishing legal frameworks similar to on-site forensic evaluations used in fatal cases may further enhance documentation accuracy, accelerate forensic reporting, and lead to more reliable judicial outcomes.

**Keywords:** Forensic medicine; firearm injuries; medical documentation; forensic consultation; legal procedures; interdisciplinary collaboration.

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## INTRODUCTION

Firearm injuries present a significant issue in forensic medicine, where accurate documentation and evaluation are crucial for legal proceedings. In cases of non-fatal firearm injuries, early forensic assessment during hospitalization can substantially improve the quality of medical documentation, which often lacks forensic-specific details. Research indicates that timely forensic evaluations enable more accurate assessments of injury characteristics, such as the number of entry wounds and the shooting distance, as both are critical factors for legal determinations.<sup>[1-7]</sup>

For instance, the role of multidetector computed tomography (MDCT) in the forensic evaluation of non-fatal firearm injuries has been highlighted as a valuable tool, allowing forensic experts to assess injuries accurately and document findings effectively.<sup>[5,8,9]</sup> Moreover, the absence of forensic consultation during the early stages of hospitalization often results in missed opportunities to collect crucial forensic evidence, as medical personnel may not be adequately trained to recognize or document such details.<sup>[2,10]</sup> These gaps in forensic documentation pose challenges in establishing the circumstances surrounding the injury and can adversely affect legal proceedings.

Forensic medicine specialists play a vital role in documenting key evidence related to firearm injuries. Their expertise ensures the accurate assessment of wound characteristics such as the direction of fire, shooting distance, and the type of ammunition used.<sup>[5,11]</sup> Inadequate or poorly documented medical records significantly hinder forensic evaluations and ultimately affect judicial outcomes. Studies have shown that inconsistencies in firearm injury documentation can lead to misinterpretations about whether an incident was an intentional assault, a self-inflicted injury, or an accident.<sup>[1,12]</sup> Such misclassifications can have severe legal consequences for both victims and suspects.

The reliance on forensic evidence in court proceedings underscores the importance of accurate and standardized documentation. Research indicates that incomplete medical records can contribute to wrongful convictions or acquittals, as the available evidence may fail to support the claims made by either party.<sup>[3,4,10]</sup> Furthermore, the lack of standardized documentation practices across different healthcare institutions exacerbates these challenges, leading to inconsistencies in the description and reporting of firearm injuries.<sup>[2,10]</sup>

The aim of this study is to highlight the challenges associated with the forensic evaluation of non-fatal firearm injuries and to emphasize the importance of accurate medical documentation in legal proceedings. Specifically, the study aims to assess the impact of missing forensic data on report completion, analyze deficiencies in hospital records related to firearm injuries, and examine the role of forensic consultation in improving documentation quality. By identifying these recurring issues, the study seeks to contribute to the ongoing discussion on enhancing interdisciplinary collaboration between forensic medi-

cine specialists and healthcare providers, in order to ensure the integrity of forensic assessments and judicial outcomes.

## MATERIALS AND METHODS

This study was conducted with the approval of the Council of Forensic Medicine Training and Scientific Research Board, granted on 18.03.2025 under decision number 2025/342. The study was conducted in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments.

### Study Design and Data Collection

This retrospective observational study examines firearm injury cases for which forensic reports were issued by the forensic medicine branch office between January 1, 2024, and December 31, 2024. Only non-fatal firearm injuries were included in the study. The dataset consists of forensic reports prepared based on hospital medical records, without direct forensic examination of the patients.

The primary data source was the forensic report database of the forensic medicine branch, which included reports issued at the request of judicial authorities under the Turkish Penal Code. The reports were reviewed to extract information regarding the type of injury, ballistic and medical documentation, the presence of missing data, and the time required for report completion.

### Variables and Categorization

The study assessed multiple variables, including:

- **Ballistic Findings:** Differentiation between entry and exit wounds, shooting distance assessment, and documentation of ammunition type.
- **Medical Documentation:** Availability of hospital records, imaging reports, and consultation notes.
- **Vascular Injury Assessment:** Presence of cardiovascular surgery consultation (KVC), angiographic imaging (BTA), or clinical examination findings.
- **Report Completion Times:** Time from injury occurrence to forensic report issuance, comparison between cases with single versus second reports, and the presence of preliminary reports.
- **Forensic Consultation:** Whether forensic medicine specialists were involved in the initial hospital assessment.

Cases were categorized based on the completeness of medical documentation, the presence or absence of missing data, and whether a second forensic report was required due to insufficient initial findings.

## Statistical Analysis

Descriptive statistical methods were used to analyze the frequency and proportion of missing forensic and medical data. Mean, standard deviation, and range were calculated for report completion times. Comparative analyses were conducted between cases requiring a single report and those requiring a second report. Correlation analyses were performed to examine the relationship between missing hospital documentation and report completion times.

All data were anonymized prior to analysis to comply with ethical and legal requirements for forensic case studies.

All descriptive statistical analyses (including means, standard deviations, and ranges) were conducted using Microsoft Excel (Microsoft Corporation, Redmond, WA, USA) and Claris FileMaker Pro 19 (Claris International Inc., Santa Clara, CA, USA). No inferential statistics or p-value calculations were performed, as the study was based on descriptive analysis of a retrospective dataset.

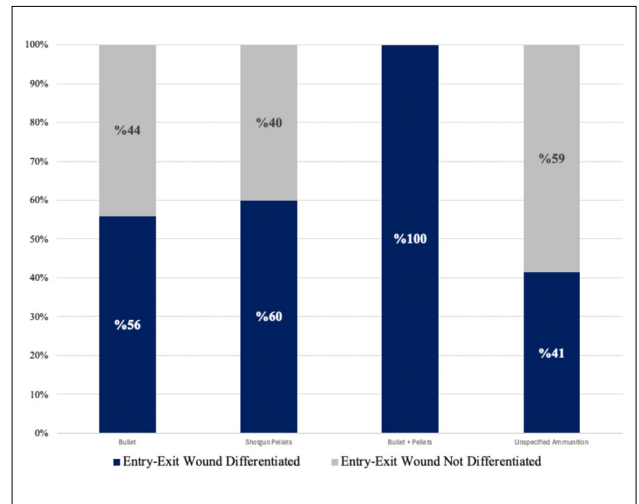
## RESULTS

This study examines the forensic evaluation of firearm injury cases referred to a forensic medicine branch office for report preparation. A total of 245 cases assessed over one year were analyzed.

Among the examined cases, 130 (53.1%) involved bullet injuries, 10 (4.1%) were caused by shotgun pellets, and one case (0.4%) resulted from both bullet and shotgun pellet injuries. However, the type of ammunition was not documented in 104 cases (42.4%).

Entry and exit wound differentiation is one of the most crucial criteria for reconstructing firearm-related incidents. Only 113 cases (46.1%) included this differentiation. However, since the final forensic reports were issued retrospectively, it was not possible to verify the accuracy of these assessments. Regarding shooting distance estimation, only one case included a description of burn marks around the wound; no relevant findings were documented in the remaining cases (Fig. 1).

In 129 cases (52.7%), the medical documentation contained deficiencies that could hinder the preparation of a final forensic report. When evaluating wounds under the Turkish Penal Code, particularly in cases of extremity injuries, the identification and documentation of major vascular injury is essential for determining whether the case meets the "life-threatening condition" criterion outlined in Article 87/I. Among the 207 cases (84.5%) involving extremity injuries, vascular pathology status could be determined from medical records in only 88 cases. Of these, just 73 cases included documentation from a cardiovascular surgery consultation and/or an angiography report. In the remaining cases, no medical records provided information regarding vascular injuries. Among the extremity injury cases, 172 (83.1%) were eligible for the issuance of a final forensic report based on the available medical records.



**Figure 1.** Distribution of ammunition types and status of entry/exit wound differentiation.

In four cases, only partial responses could be provided, while in 31 cases, it was not possible to issue a final report, and a preliminary report was prepared instead.

Upon reviewing all cases, imaging test reports were absent in 81 cases (33.1%), and consultation examination records were missing in 97 cases (39.6%). Furthermore, in 60 cases, although a specialist consultation had been conducted, the related documentation was not included in the forensic file.

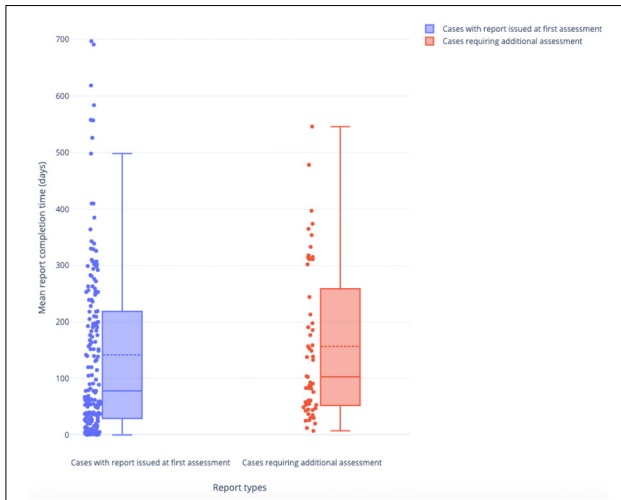
Regarding wound description consistency (i.e., consistency within the same medical document for the same wound), wound descriptions were consistent in 144 cases. However, inconsistencies were noted in the localization and severity of injuries in the remaining cases.

No forensic medicine consultation was recorded in any of the cases.

Medical records indicate that 87 cases (35.5%) involved multiple firearm projectile wounds. In firearm injuries caused by multiple shots, each wound must be evaluated separately under Articles 86 and 87 of the Turkish Penal Code. This requires detailed documentation of the trajectory, as well as the affected tissues and organs, for each wound. Among these 89 cases, only 22 (25.3%) contained sufficient medical documentation to allow for an individual assessment of each wound. In 65 cases (74.7%), the wounds were not evaluated separately.

In cases where a final forensic report was issued upon the initial request (n=185), the average time from injury to report completion was 172.5 days. In contrast, cases in which a preliminary report was issued, requiring additional medical records, had an average duration of 100.95 days between the two reports, with a total report completion time averaging 230.82 days (Fig. 2).

Among cases requiring a second forensic evaluation, the most common reason was missing medical documentation (n=50).



**Figure 2.** Forensic report completion times (cases with durations exceeding two years were excluded for visual clarity).

Other reasons included additional legal inquiries (n=2), incomplete medical record submissions (n=2), and insufficient wound descriptions (n=1).

Another factor affecting report completion time was whether the patient was still hospitalized at the time of the forensic request. Among all cases, nine (3.7%) required forensic reports while the patient was still receiving inpatient treatment. Of these, six cases (66.7%) resulted in only a preliminary report, while a final forensic report was issued in only three cases. Incomplete diagnostic procedures, ongoing treatment, and lack of comprehensive wound documentation were significant factors contributing to this outcome.

A critical finding of this study is that forensic medicine consultation was not conducted in any of the cases during hospitalization. The absence of such consultation contributed to the lack of essential ballistic and medical findings, negatively impacting the accuracy and effectiveness of forensic reporting.

## DISCUSSION

Firearm injuries represent a significant public health issue, particularly in the field of forensic medicine, where accurate documentation and evaluation are essential for legal proceedings. This study focuses specifically on cases in Türkiye, examining forensic assessments conducted under the Turkish Penal Code. However, the challenges identified, especially those related to documentation deficiencies and the absence of forensic consultation, may have broader relevance in international forensic and legal contexts. The difficulties faced by forensic medical specialists, particularly in Türkiye under the Turkish Penal Code, highlight the need for improved practices in both documentation and consultation processes related to non-fatal firearm injuries. This study analyzes challenges encountered in evaluating such cases over the past year, based on data collected from forensic case files. The findings reveal recurring issues in documentation and forensic assessments,

which are discussed in relation to existing literature. The discussion emphasizes the importance of early forensic consultation, the role of forensic experts in documenting critical evidence, the legal implications of incomplete medical records, and recommendations for enhancing interdisciplinary collaboration between healthcare providers and forensic experts.

The importance of early forensic consultation in cases of firearm injuries cannot be overstated. The findings of this study support existing literature by demonstrating that forensic assessments conducted retrospectively from medical records are frequently hindered by incomplete documentation. Entry and exit wound differentiation was documented in 113 cases (46.1%); however, because forensic reports were prepared retrospectively, the accuracy of this documentation could not be verified. Additionally, shooting range estimation was largely absent, with only one case mentioning burn marks indicative of close-range fire. Studies have shown that timely forensic evaluations lead to more accurate assessments of such injury characteristics, which are essential for legal determinations.<sup>[1-7]</sup> Research also highlights that delays in forensic consultation can negatively impact legal outcomes, as missing or incomplete initial assessments may lead to misinterpretation of injury circumstances and prolonged judicial proceedings. The absence of timely forensic involvement has been associated with inconsistencies in legal classification, further complicating case resolution and affecting both victims and defendants. For example, the use of multidetector computed tomography in the medicolegal evaluation of non-fatal firearm injuries has been emphasized as a valuable tool, enabling forensic experts to assess injuries accurately and document findings effectively.<sup>[5,8,9]</sup> Despite this, our data indicate that forensic experts rarely have access to imaging reports, which could assist in analyzing wound trajectories and classifying injuries. Furthermore, the absence of forensic consultation during hospitalization results in missed opportunities to collect forensic evidence, as medical staff may not be adequately trained to recognize and document forensic details.<sup>[2,10]</sup> This gap in practice creates challenges in establishing the circumstances surrounding the injury, which is an essential aspect of legal proceedings.

Forensic experts play a pivotal role in documenting key evidence related to firearm injuries. In this study, 87 cases (35.5%) involved multiple firearm projectile wounds. However, only 22 cases (25.3%) included sufficient documentation to allow each wound to be evaluated individually, while 65 cases (74.7%) lacked detailed wound differentiation. This limitation may hinder comprehensive forensic assessments and reduce the clarity of legal interpretations. Forensic evaluations help establish critical information such as bullet trajectory, shooting distance, and the potential lethality of injuries, all of which can significantly influence judicial outcomes. The reliability of forensic reports is critical not only for medico-legal documentation but also for their evidentiary value in court proceedings. Forensic experts play a key role in accurately assessing wound characteristics, including determining bullet trajec-

tory, shooting distance, and the type of ammunition used.<sup>[5,11]</sup> In this study, many forensic reports lacked essential information due to missing hospital documentation. For instance, the type of ammunition was not documented in 42.4% of cases, and vascular injury assessment was unavailable in 89 cases (43.0% of extremity injuries) due to missing cardiovascular consultations or imaging reports. However, vascular pathology could be assessed in 88 extremity injury cases, with 73 of those including documentation from cardiovascular surgery consultations or angiography. These deficiencies align with previous research indicating that inconsistencies in firearm injury documentation can lead to misinterpretations of intent, complicating the legal classification of incidents as accidental, suicidal, or homicidal.<sup>[1,12]</sup> Such misclassifications can have serious implications for both victims and defendants, reinforcing the need for rigorous forensic documentation practices.

The impact of missing or incomplete medical records on legal processes is a significant concern in forensic medicine. Inadequate documentation can create challenges in court, where the burden of proof relies heavily on the quality of the evidence presented. In this study, 31 cases required preliminary forensic reports due to missing hospital documentation, further delaying case resolution and contributing to prolonged investigative and legal processes. Our findings show that cases requiring a second forensic report had a higher prevalence of missing hospital records. For cases where a final forensic report was issued after a single evaluation, the average time between injury and report completion was 172.5 days. In contrast, when a preliminary report was followed by a final evaluation, the total report completion time extended to an average of 230.82 days. Future studies with a larger dataset and more controlled variables may be needed to validate these findings through inferential statistical analysis. This reinforces previous research demonstrating that incomplete medical records can result in wrongful convictions or acquittals.<sup>[3,4,10]</sup> Moreover, the lack of standardized documentation practices across different healthcare facilities exacerbates these issues, leading to inconsistencies in how firearm injuries are recorded and reported.<sup>[2,10]</sup> Such inconsistencies not only affect individual cases but also undermine the broader legal framework surrounding firearm-related incidents.

Timely and accurate medical documentation is essential for facilitating effective communication among healthcare providers, legal professionals, and forensic experts. The quality of documentation directly affects the ability of forensic experts to conduct thorough evaluations, which are often pivotal in legal cases involving injuries.<sup>[13,14]</sup> Research indicates that delays in documentation can lead to prolonged legal proceedings, as attorneys may require additional time to gather and analyze medical records.<sup>[15,16]</sup> In this study, the completion of forensic reports was frequently delayed due to missing or delayed hospital documentation, aligning with previous research suggesting that healthcare facilities' response times to judicial requests can significantly impact case resolution timelines.<sup>[15,17]</sup> Furthermore, the educational background of healthcare

providers plays a critical role in ensuring the quality of medical documentation. Studies have demonstrated that targeted educational interventions can significantly improve the completeness and accuracy of medical records.<sup>[18,19]</sup>

Emergency physicians play a crucial role in the forensic process, often unknowingly shaping legal assessments through their documentation. Incomplete or vague injury descriptions, missing details regarding gunshot wound characteristics, and the absence of key medical reports significantly hinder forensic evaluations and legal proceedings. Forensic medicine specialists rely heavily on hospital documentation; however, our findings highlight major deficiencies in entry-exit wound differentiation, shooting distance assessment, and vascular injury evaluation. These documentation gaps can lead to the misclassification of criminal charges, affecting the legal distinction between aggravated assault, attempted homicide, or self-inflicted injuries, and thereby influencing judicial decisions. Hospital administrators should also ensure that, when judicial authorities request medical records, the submitted documents include complete medical reports, imaging studies, and any available specialist consultations. Standardizing documentation practices in emergency departments could significantly improve both forensic accuracy and legal outcomes.

Furthermore, ensuring that forensic consultation occurs after patient stabilization in hospital settings is essential. However, logistical and institutional barriers may hinder its effective implementation. Hospitals often prioritize immediate life-saving interventions over forensic evaluations, resulting in missed opportunities for early forensic documentation. The absence of standardized hospital protocols requiring forensic consultation also contributes to inconsistencies across institutions. Limited forensic medicine staffing and a lack of interdisciplinary coordination further complicate efforts to integrate forensic assessments into routine emergency care. Addressing these systemic barriers through policy changes and training programs is essential to enhance the role of forensic experts in hospital settings. Research indicates that many critical details related to firearm injuries may be overlooked if forensic experts are not involved until after the initial treatment phase.<sup>[20,21]</sup> In this study, forensic consultation was not conducted in any of the cases, confirming that all forensic evaluations were performed retrospectively, based solely on medical records rather than direct forensic assessments during hospitalization. Our findings show that in nine cases (3.7%), forensic reports were requested while the patient was still hospitalized; in six of these cases, only a preliminary report could be issued due to missing data. Establishing protocols that mandate on-site forensic evaluations for all firearm injury cases, regardless of the patient's condition, could help mitigate this issue. Such protocols would ensure that forensic experts are consulted before discharge, allowing for comprehensive documentation and analysis of the injuries sustained.<sup>[6,22]</sup>

To address these challenges, best practices and international standards for improving forensic documentation and inter-



disciplinary collaboration must be established. One effective approach is the implementation of standardized forensic recording forms that can be used by both healthcare providers and forensic experts.<sup>[7,23]</sup> Our findings suggest that structured forms for documenting wounds, ammunition type, and shooting range estimation could significantly reduce the prevalence of incomplete forensic reports. These forms should include specific fields for recording wound characteristics, shooting range, and direction of fire, ensuring that all relevant information is captured at the time of treatment. Additionally, training programs for medical staff on the importance of forensic documentation and the role of forensic experts can foster better collaboration and improve the quality of records.<sup>[24,25]</sup>

The time required to complete forensic reports is a crucial factor in the administration of justice. Research indicates that delays in forensic reporting, often caused by systemic inefficiencies and incomplete documentation, can have significant consequences for legal proceedings.<sup>[15,16]</sup> This study highlights that delays in forensic reporting can result from multiple factors, including the late submission of case files by judicial authorities, missing medical documentation, and delayed hospital responses to judicial requests. The absence of critical medical records often necessitates additional time for forensic experts to request and obtain the necessary information, further extending the report completion timeline. These delays contribute to prolonged investigative and legal processes, ultimately postponing judicial outcomes.<sup>[15,17]</sup> Implementing standardized protocols for expedited document submission and enhancing collaboration among forensic institutions, hospitals, and judicial authorities could help mitigate these delays and improve the efficiency of forensic assessments. Existing models, such as structured forensic documentation frameworks implemented in some European forensic systems, have demonstrated success in streamlining medico-legal workflows and ensuring consistency in forensic reporting. Adapting such frameworks to national forensic structures could enhance forensic evaluations and reduce delays in legal proceedings.

## CONCLUSION

The challenges faced in the forensic evaluation of non-fatal firearm injuries highlight the urgent need for improved documentation practices and interdisciplinary collaboration. This study underscores the critical role of emergency physicians in shaping forensic assessments, as incomplete injury descriptions, missing medical records, and inadequate ballistic documentation significantly hinder forensic evaluations and legal decision-making. Hospital administrators must ensure that medical records submitted to judicial authorities include complete documentation, imaging reports, and specialist consultations to prevent the misclassification of injuries in legal proceedings.

Furthermore, the absence of structured forensic consultation during hospitalization is a major limitation, contributing

to delays in forensic reporting and adversely affecting judicial processes. Establishing on-site forensic evaluations post-stabilization could improve documentation accuracy and allow forensic experts to assess injuries before critical evidence is lost. Implementing standardized forensic documentation protocols in emergency departments and promoting interdisciplinary cooperation between forensic experts, emergency physicians, and legal authorities will be essential for enhancing the accuracy of forensic assessments.

This study demonstrates that early forensic consultation, accurate documentation of wound characteristics, and standardized practices are essential to ensuring that legal processes are supported by reliable forensic evidence. Introducing legal frameworks similar to those outlined in Article 86 of the Turkish Code of Criminal Procedure, where forensic experts accompany prosecutors during crime scene examinations, may serve as a model for integrating forensic consultations in firearm injury cases while the patient is still hospitalized. Such measures could significantly reduce documentation deficiencies, expedite forensic reporting, and ultimately support more equitable legal outcomes.

By addressing these issues, forensic medicine specialists can improve the quality of their evaluations and ultimately contribute to improved fairness in firearm-related legal proceedings.

**Ethics Committee Approval:** This study was approved by the Council of Forensic Medicine Training and Scientific Research Board Ethics Committee (Date: 18.03.2025, Decision No: 2025/342).

**Peer-review:** Externally peer-reviewed.

**Authorship Contributions:** Concept: M.N.A., İ.Y.T.A.; Design: M.N.A., İ.Y.T.A., M.K.; Supervision: M.N.A., M.K.; Data collection and/or processing: M.N.A., İ.Y.T.A., M.K.; Analysis and/or interpretation: M.N.A., İ.Y.T.A.; Literature review: M.N.A., İ.Y.T.A.; Writing: M.N.A., İ.Y.T.A., M.K.; Critical review: M.N.A.

**Conflict of Interest:** None declared.

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## ORİJİNAL ÇALIŞMA - ÖZ

### Hastanelerde adli tıp konsültasyonunun geliştirilmesi: Ateşli silah yaralanmalarında dosya temelli adli tıbbi değerlendirme süreçlerinin sınırlılıkları ve erken dönem disiplinler arası inceleme önerisi

**AMAÇ:** Ölümle sonuçlanmayan ateşli silah yaralanmalarının adli değerlendirmesi, hukuki süreçler açısından kritik öneme sahiptir. Ancak tıbbi dokümantasyonun eksiklikleri ve doğruluk sorunları, adli tıp raporlarının kalitesini olumsuz etkilemektedir. Bu çalışma, retrospektif dosya incelemelerine dayalı adli değerlendirmelerin sınırlılıklarını ve eksik adli/tıbbi verilerin vaka değerlendirmelerine etkisini araştırarak, hastane yatışı sırasında erken adli tıp konsültasyonunun önemini vurgulamayı amaçlamaktadır.

**GEREÇ VE YÖNTEM:** Bu retrospektif gözlemsel çalışma, 2024 yılı boyunca bir adli tıp şube müdürlüğüne sevk edilen 245 ateşli silah yaralanması vakasını içermektedir. Çalışmada balistik bulgular, tıbbi dokümantasyon eksiklikleri, damar yaralanmalarının değerlendirilmesi ve adli rapor tamamlanma süreleri incelenmiştir. Vakalar, tıbbi kayıtların eksiksizliği ve ek adli değerlendirme gerekliliğine göre kategorize edilmiştir.

**BULGULAR:** Vakaların %53,9'unda giriş-çıkış yarısı ayrımlı yapılmamış, atış mesafesi değerlendirmesi ise yalnızca bir vakada belgelenmiştir. Mühimmat türü vakaların %42,4'ünde rapor edilmemiştir. Vakaların %52,7'sinde tıbbi dokümantasyon eksik olup, hastane kayıtları, görüntüleme tetkikleri ve uzman konsültasyonları bulunmamaktaydı. Ekstremitte yaralanmalarının %43,0'unda damar yaralanması değerlendirilmesi adli raporlara yansıtılmamıştır. Birden fazla mermi isabeti olan vakalar %35,5 oranında saptanmış, ancak yalnızca %25,3'ü ayrı yara değerlendirmesi için yeterli tıbbi veriyeye sahip olarak bulunmuştur. İlk değerlendirmede kesin rapor düzenlenebilen vakalarda ortalama rapor süresi 172,5 gün iken, ek tıbbi kayıt temini gerektiren vakalarda toplam süreç 230,8 güne uzamıştır. Ayrıca, hiçbir vakada hastane sürecinde adli tıp branş konsültasyonu yapılmamış olup, hastanede yatışı sırasında istenen adli raporların çoğunda kesin değerlendirme yerine ön rapor hazırlanabilmektedir.

**SONUÇ:** Elde edilen bulgular, acil tıp hekimlerinin adli değerlendirme sürecindeki kritik rolünü ortaya koymaktadır. Eksik veya yetersiz tıbbi dokümantasyon, adli değerlendirmeleri ve hukuki kararları doğrudan etkilemektedir. Hastanelerde yapılandırılmış adli tıp konsültasyon protokollerinin uygulanması, adli makamların tıbbi kayıt taleplerinde eksiksiz belge sağlanması ve adli tıp uzmanları ile acil tıp hekimleri arasındaki disiplinler arası iş birliğinin güçlendirilmesi, adli raporlama süreçlerini önemli ölçüde iyileştirebilecektir. Ölümlü ateşli silah yaralanması vakalarında sahada yapılan adli değerlendirmelere benzer yasal düzenlemelerin, hastane ortamında erken adli değerlendirmeyi mümkün kılacak şekilde uyarlanması, adli tıp raporlarının doğruluğunu artırarak daha güvenilir hukuki sonuçlar elde edilmesini sağlayabilir.

**Anahtar sözcükler:** Adli tıp, ateşli silah yaralanmaları, tıbbi dokümantasyon, adli tıp konsültasyonu, hukuki süreçler, disiplinler arası iş birliği.

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