ORIGINAL ARTICLE

# Assessment of computed tomography indications and computed tomography reports for usefulness in clinical presentation at postoperative follow-up of gunshot wound cases

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## ABSTRACT

**BACKGROUND:** The present study aimed to evaluate the results of lower thoracic tomography (LTT) and upper abdominal tomography (UAT) of the patients who were treated and followed at our tertiary center due to gunshot wounds (GSWs).

**METHODS:** The present research was designed as a retrospective descriptive study. All patients, who were admitted to our clinic due to GSW between January 2016 and April 2020, were retrospectively analyzed. This study included 44 patients who had postoperative lower thoracic and upper abdominal tomography scans.

**RESULTS:** Among the patients, 43 (97.72%) were male, and one (2.27%) patient was female, with a mean age of 27.45 (range: 20–53) years. The mean length of hospital stay was 14.93 (range: 5–38) days. The mean number of tomography scans per patient was 1.65 (1–4), and the mean Injury Severity Score (ISS) was 24.38 (12–43). Among the patients, 31 (70.45%) had a direct GSW from a pistol or a rifle, while 13 (29.5%) sustained secondary injuries from shrapnel emanating from a bomb explosion. Furthermore, 23 (52.27%) patients who were initially operated at another center were clinically observed, while 15 (34.09%) patients were operated for the first time, and six (13.63%) patients had their second operation. LTT scans were obtained due to dyspnea, direct thoracic trauma and in addition to abdominal tomography for follow-up in 25 (56.81%), 13 (29.54%) and six (13.63%) patients, respectively. UAT scans were obtained for postoperative follow-up in 29 (65.90%), preoperative assessment in 12 (27.27%) and assessment of blast trauma in the absence of ,direct abdominal trauma in three (6.81%) patients. The most common finding on LTT was effusion (47.7%). No pathology was observed in 61.36% of the UAT scans, while liver laceration was noted in 20.45%. The total cost of LTT and UAT was almost half that of a total thoracic tomography and a whole abdominal tomography.

**CONCLUSION:** Selective lower thoracic and upper abdominal tomography obtained following a gunshot injury may be used not only to detect pathology but also as an efficacious, fast, reliable and cost-effective imaging method.

**Keywords:** Gunshot wound; lower thoracic tomography; upper abdominal tomography.

## INTRODUCTION

Technological developments have resulted in increased methods for and quality of tomography imaging. Multidetector angiography and tractography have become more significant in blunt and penetrating injuries.[1,2] GSWs may include blunt and penetrating injuries. Tomography for diagnostic and follow-up purposes are important for early diagnosis and treatment in GSWs.[3] Upper abdominal tomography, which displays solid organs, and lower thoracic tomography, which reveals findings of pneumothorax, hemothorax, effusion and atelectasis, is important in the management of patients with trauma.[4]

LTT and UAT can be used as a more cost-effective, faster and more efficient method compared to whole thoracic and abdominal tomography imaging.

Cite this article as: Üstüner MA, Eryılmaz M. Assessment of computed tomography indications and computed tomography reports for usefulness in clinical presentation at postoperative follow-up of gunshot wound cases. Ulus Travma Acil Cerrahi Derg 2020;26:613-619.

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Ulus Travma Acil Cerrahi Derg 2020;26(4):613-619 DOI: 10.14744/tjtes.2020.26862 Submitted: 10.05.2020 Accepted: 17.06.2020 Online: 25.06.2020

The present study evaluated the results of postoperative LTT and UAT scans of the patients who were treated and followed at our tertiary center due to GSWs. We aimed to assess CT indications and CT reports for usefulness in clinical presentation.

## MATERIALS AND METHODS

This study was conducted at our clinic, which is a tertiary reference center for GSWs, and was designed as a retrospective descriptive study. This study retrospectively analyzed the patients who were admitted to the clinic due to GSWs between January 2016 and April 2020. This study included 44 patients with available postoperative lower thoracic and upper abdominal tomography scans.

Age, gender, length of hospital stay, location and type of injury, LTT and UAT results, ISS scores, operations performed at first admission center and the present center, and morbidity and mortality data of the patients were recorded.

All patients received whole thoracic and whole abdominal tomography scans through the routine administration of an intravenous contrast agent (iopromide, ULTRAVİST 370 mg/dl, Bayer Türk Kimya San. Ltd. Sti) at a dose of 2 ml/kg. The head, neck, pelvis and extremities were also scanned when necessary.

The Injury Severity Score (ISS) was calculated by evaluating six regions of the body according to the degree of injury severity through a review of the patient medical records.

### Statistical Analysis

Statistical analyses were performed using the IBM SPSS for Windows version 21.0 software. Numerical variables were expressed as mean (minimum-maximum). Categorical variables were expressed as frequency (percentages).

## RESULTS

Among the patients, 43 (97.72%) patients were male, and one (2.27%) patient was female, with a mean age of 27.45 (range: 20–53) years. When patients were examined by age groups, 35 (79.54%) patients were aged 18–30 years, six (13.3%) patients were aged 31–40 years, two (4.54%) patients were aged 41–50 years, and one (2.27%) patient was aged 51–60 years. The mean length of hospital stay was 14.93 (range: 5–38) days. The mean number of tomography scans per patient was 1.65 (1–4). Postoperative morbidities occurred in a total of 19 (43.18%) patients, as wound site infections in 10 (22.72%), intraabdominal abscesses in six (13.63%), enterocutaneous fistulas in two (4.54%) and biliary leakage in one (2.27%). One patient (2.27%) (no:21), who had a gluteal injury and femoral head fracture, and underwent a protective colostomy, died after sepsis (Table 1).

The most common injury was in the abdomen (n=41, 93.18%), which was followed by lower extremities (n=16, 36.36%), thorax (n=13, 29.54%), gluteal region (n=9, 20.45%), face (n= 3 6.81%), back (n=3, 6.81%), upper extremities (n=2, 4.54%) and the flank region (n=1, 2.27%). The type of injury was a direct GSW from a gun or a rifle in 31 (70.45%) patients, while 13 (29.5%) sustained secondary injuries from shrapnel emanating from a bomb explosion (Table 2).

LTT scans were obtained due to dyspnea, direct thoracic trauma and in addition to abdominal tomography for follow-up in 25 (56.81%), 13 (29.54%) and six (13.63%) patients, respectively. UAT scans were obtained in 29 (%65.90) for postoperative follow-up, in 12 (27.27%) for preoperative assessment and in three (6.81%) patients for assessment of blast trauma in the absence of direct abdominal trauma. The most common finding on LTT was effusion (47.7%). No pathology was observed in 61.36% of the UAT scans, while 20.45% revealed liver lacerations. The mean Injury Severity Score (ISS) was 24.38 (12–43) (Table 2). Furthermore, 23 (52.27%) patients who were initially operated at another center were clinically observed, while 15 (34.09%) patients were operated for the first time and six (13.63%) patients had their second operation. The most commonly performed operations were primary repair of the liver (n=9, 20.45%), right hemicolectomy (n=8, 18.18%), colostomy (n=8, 18.8%), primary repair of the diaphragm (n=6, 13.63%) and small bowel resection (n=3, 6.81%). The injury was penetrating the abdomen in 36 (81.81%) of 41 patients with an abdominal injury (Table 2).

**Table 1.** General specifications

| | n | % |
|---|---|---|
| Gender | | |
| Male | 33 | 97.73 |
| Female | 1 | 2.27 |
| Age groups (years) | | |
| 18–30 | 35 | 79.54 |
| 31–40 | 6 | 13.63 |
| 41–50 | 2 | 4.54 |
| 51–60 | 1 | 2.27 |
| Morbidity | | |
| Wound site infection | 10 | 22.72 |
| Intraabdominal abscess | 6 | 13.63 |
| Enterocutaneous fistula | 2 | 4.54 |
| Biliary fistula | 1 | 2.27 |
| Total | 19 | 43.18 |
| Mortality | | |
| Sepsis | 1 | 2.27 |
| Length of hospital stay (mean) | 14.93 (5–38) days | |
| Number of tomography scans | 1.65 (1–4) | |

**Table 2.** General characteristics of the patients

| No | Age | Gender | Location of injury | Type of Injury | ISS | Operation | PCT DAY | LTT ındications | LTT results | UAT indications | UAT results | Post-CT therapy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26 | M | Abdomen, gluteal region, back, right leg | Bomb | 29 | None | 1 | Respiratory distress | Effusion, atelectasis | Preoperative assessment | Liver hematoma | Gluteal Debridement + VAC |
| 2 | 26 | M | Abdomen, left foot, back | Bomb | 34 | Right hemicolectomy | 4 | Respiratory distress | Consolidation | Postoperative Follow-up | Normal | Ileostomy |
| 3 | 25 | M | Abdomen | GSW | 17 | Colostomy | 5 | Respiratory distress | Effusion, atelectasis | Postoperative Follow-up | Normal | Clinical Follow-up |
| 4 | 27 | M | Abdomen | GSW | 22 | Right hemicolectomy | 5 | Respiratory distress | Consolidation, atelectasis | Postoperative Follow-up | Normal | Clinical Follow-up |
| 5 | 22 | M | Abdomen, eye | Bomb | 22 | Colostomy | 6 | Respiratory distress | Effusion, atelectasis | Postoperative Follow-up | Normal | Clinical Follow-up |
| 6 | 20 | M | Abdomen | GSW | 34 | Primary repair of the diaphragm | 6 | Respiratory distress | Effusion | Postoperative Follow-up | Liver laceration | Clinical Follow-up |
| 7 | 24 | M | Abdomen, back | GSW | 17 | None | 1 | Respiratory distress | Normal | Preoperative assessment | Foreign body in the liver | Drainage of lumbar abscess |
| 8 | 29 | M | Abdomen | GSW | 43 | Primary repair of the liver, colostomy | 7 | Respiratory distress | Normal | Postoperative Follow-up | Liver laceration | Clinical Follow-up |
| 9 | 28 | M | Abdomen, femur, tibia | Bomb | 17 | Colostomy | 8 | Respiratory distress | Effusion | Postoperative Follow-up | Normal | Ostomy revision |
| 10 | 29 | F | Abdomen, femur | GSW | 22 | None | 1 | Respiratory distress | Effusion | Preoperative assessment | Normal | Primary repair of the liver |
| 11 | 26 | M | Flank region | Bomb | 12 | None | 1 | For follow-up with abdominal tomography | Normal | Blast Trauma Follow-up | Normal | Debridement, Vac |
| 12 | 24 | M | Abdomen, rectum | GSW | 17 | None | 1 | For follow-up with abdominal tomography | Normal | Preoperative assessment | Normal | Cholecystectomy, gluteal debridement, Vac |
| 13 | 22 | M | Abdomen, gluteal | Bomb | 17 | None | 1 | Respiratory distress | Pneumothorax | Preoperative assessment | Normal | Colostomy, debridement |
| 14 | 20 | M | Abdomen, face | GSW | 22 | Primary repair of the liver and diaphragm | 7 | Respiratory distress | Pneumothorax + effusion | Postoperative Follow-up | Liver laceration | Explorative laparotomy |
| 15 | 29 | M | Abdomen, thorax | GSW | 22 | Primary repair of the liver, primary repair of the diaphragm, chest tube insertion (right) | 6 | Thoracic trauma | Effusion, contusion, atelectasis | Postoperative Follow-up | Liver laceration | Clinical Follow-up |
| 16 | 36 | M | Abdomen | GSW | 27 | Right hemicolectomy + right nephrectomy | 5 | Respiratory distress | Atelectasis, consolidation | Postoperative Follow-up | Subdiaphragmatic collection | Clinical Follow-up |
| 17 | 29 | M | Abdomen, thorax | GSW | 27 | Splenectomy, thoracotomy, primary repair of the diaphragm | 7 | Thoracic trauma | Empyema, consolidation | Postoperative Follow-up | Subdiaphragmatic collection | Clinical Follow-up |
| 18 | 29 | M | Abdomen + femur | GSW | 22 | None | 1 | Respiratory distress | Normal | Preoperative assessment | Normal | Small bowel and colon resection |
| 19 | 23 | M | Abdomen, gluteal region | GSW | 17 | Primary repair of the cecum | 5 | Respiratory distress | Atelectasis, effusion | Postoperative Follow-up | Normal | Clinical Follow-up |
| 20 | 31 | M | Abdomen, thorax | Bomb | 34 | Primary repair of the liver, cholecystectomy, small bowel resection, primary repair of the colon | 9 | Thoracic trauma | Atelectasis, effusion | Postoperative Follow-up | Liver laceration | Clinical Follow-up |
| 21 | 53 | M | Gluteal region, femur | GSW | 41 | None | 1 | Respiratory distress | Effusion | Blast Trauma Follow-up | Normal | Primary repair of the rectum, end colostomy, cholecystectomy |
| 22 | 25 | M | Rectum, sacrum | GSW | 22 | None | 1 | Respiratory distress | Normal | Blast Trauma Follow-up | Normal | Cholecystectomy + adhesiolysis + colostomy + Vac application to the anal region |

**Table 2.** General characteristics of the patients *(continuation)*

| No | Age | Gender | Location of injury | Type of Injury | ISS | Operation | PCT DAY | LTT indications | LTT results | UAT indications | UAT results | Post-CT therapy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 20 | M | Abdomen, thorax, femur | GSW | 27 | Chest tube insertion, partial gastric resection | 7 | Thoracic trauma | Pneumothorax, effusion | Postoperative Follow-up | Normal | Clinical Follow-up |
| 24 | 44 | M | Abdomen, humerus | GSW | 27 | Right hemicolectomy, primary repair of the liver | 7 | Respiratory distress | Effusion, consolidation, infiltration | Postoperative Follow-up | Normal | Clinical Follow-up |
| 25 | 27 | M | Abdomen | GSW | 22 | Colostomy | 8 | Respiratory distress | Consolidation, atelectasis | Postoperative Follow-up | Normal | Clinical Follow-up |
| 26 | 26 | M | Abdomen, thorax | GSW | 22 | Colostomy, primary repair of the liver | 9 | Thoracic trauma | Pneumothorax, pneumo-mediastinum, consolidation | Postoperative Follow-up | Normal | Clinical Follow-up |
| 27 | 24 | M | Abdomen, thorax | GSW | 17 | Primary repair of the kidney, colostomy | 6 | Thoracic trauma | Effusion | Postoperative Follow-up | Normal | Clinical Follow-up |
| 28 | 27 | M | Abdomen, thorax | GSW | 17 | Right lung lower lobe resecti-on, primary repair of the liver | 7 | Thoracic trauma | Hemithorax, contusion | Postoperative Follow-up | Pseudoaneurysm, hematoma and laceration of the liver | Clinical Follow-up |
| 29 | 23 | M | Abdomen, thorax | GSW | 22 | Primary repair of the liver | 4 | Thoracic trauma | Effusion, atelectasis, contusion | Postoperative Follow-up | Liver laceration, hematoma | ERCP/Nasobiliary drainage (Bile leakage) |
| 30 | 33 | M | Abdomen, pelvis | GSW | 22 | None | 1 | Respiratory distress | Atelectasis | Preoperative assessment | Normal | Small bowel and colon resection + colostomy |
| 31 | 23 | M | Abdomen, thorax | GSW | 27 | Splenectomy, primary repair of the diaphragm | 4 | Thoracic trauma | Hemothorax, atelectasis | Postoperative Follow-up | Subdiaphragmatic collection | Clinical Follow-up |
| 32 | 32 | M | Abdomen, tibia | GSW | 22 | Primary repair of the small bowel and colon | 5 | For follow-up with abdominal tomography | Atelectasis | Postoperative Follow-up | Normal | Clinical Follow-up |
| 33 | 24 | M | Abdomen, eye, pelvis | Bomb | 27 | Explorative laparotomy | 4 | Thoracic trauma | Contusion | Postoperative Follow-up | Normal | Clinical Follow-up |
| 34 | 25 | M | Thorax | Bomb | 22 | Explorative laparotomy | 4 | For follow-up with abdominal tomography | Effusion | Postoperative Follow-up | Normal | Clinical Follow-up |
| 35 | 32 | M | Abdomen, femur, tibia | Bomb | 29 | None | 1 | Respiratory distress | Pneumothorax, contusion | Preoperative assessment | Normal | Wound debridement, VAC |
| 36 | 26 | M | Abdomen, thorax, femur | Bomb | 29 | None | 1 | Thoracic trauma | Foreign body, effusion | Preoperative assessment | Liver calcification | Wound debridement, VAC |
| 37 | 22 | M | Abdomen, right arm, right femur | GSW | 27 | None | 1 | Respiratory distress | Effusion, contusion | Preoperative assessment | Normal | Right hemicolectomy |
| 38 | 25 | M | Abdomen, gluteal region | GSW | 34 | Explorative laparotomy | 3 | Respiratory distress | Atelectasis, consolidation, effusion | Postoperative Follow-up | Normal | Wound debridement, VAC |
| 39 | 42 | M | Abdomen, gluteal region, humerus, femur | Bomb | 12 | None | 1 | For follow-up with abdominal tomography | Normal | Preoperative assessment | Normal | Wound debridement, VAC |
| 40 | 23 | M | Abdomen, gluteal region | Bomb | 43 | Right hemicolectomy | 5 | For follow-up with abdominal tomography | Normal | Postoperative Follow-up | Normal | Wound debridement, VAC |
| 41 | 36 | M | Abdomen, gluteal region, femur | GSW | 17 | Primary repair of the stomach and diaphragm, splenectomy, tube thoracostomy | 5 | Respiratory distress | Effusion, foreign body, contusion | Postoperative Follow-up | Normal | Clinical Follow-up |
| 42 | 26 | M | Abdomen | GSW | 22 | None | 1 | Respiratory distress | Atelectasis, consolidation | Preoperative assessment | Renal contusion | Right hemicolectomy |
| 43 | 23 | M | Abdomen + thorax | GSW | 22 | Right hemicolectomy, ileos-tomy, primary repair of the liver and kidney | 6 | Thoracic trauma | Effusion, atelectasis, consolidation | Postoperative Follow-up | Liver laceration + renal hematoma | Clinical Follow-up |
| 44 | 22 | M | Abdomen, thorax, gluteal region | GSW | 27 | Chest tube insertion (right), primary repair of liver and kidney | 7 | Thoracic trauma | Hemothorax, atelectasis | Postoperative Follow-up | Liver laceration, renal he-matoma | Clinical Follow-up |

GSW: Gunshot wound; LTT: Lower thoracic tomography; UAT: Upper abdominal tomography;; ISS: Injuriy Severity Score; PCT DAY: Postoperative computed tomography scanning day.

The total cost of LTT and UAT was almost half that of a total thoracic tomography and a whole abdominal tomography (63 TL & 120 TL).

## DISCUSSION

The present study assessed perioperative LTT and UAT scans that were performed on patients admitted to our clinic following GSWs. LTT was requested due to respiratory distress in 56.81%, due to thoracic trauma in 29.54% and for a follow-up examination in addition to abdominal tomography in 13.63% patients. UAT was performed in 65.90% for postoperative follow-up, in 27.27% for preoperative assessment and in 6.81% of patients for assessment of the blast trauma in the absence of a direct abdominal trauma. The most common LTT finding was effusion (47.7%). No pathology was observed in 61.36% of UAT scans, while 20.45% revealed liver lacerations. The total cost of LTT and UAT was almost half that of a total thoracic tomography and a whole abdominal tomography.

An average of 80,000 non-fatal and 30,000 fatal GSWs occur in the United States every year.[5] As a type of trauma, GSW is different from regular traumas by nature. The injuries sustained from GSWs are related to the speed and energy of the bullet, and there is also a blast effect. Bullets spin when they enter into the body, leading to more damage than expected. As such, the initial physical findings may be misleading.[6] GSWs are associated with a high mortality rate and account for 90% of all penetrating traumas.[7] The mortality rate in the present study was 2.27%, which is lower than reported by previous studies in the literature. Mortalities occurring at the scene and at the first admission center were not considered. GSWs result in indefinite numbers of deeper penetrations and more tissue loss. It is reported in the literature that approximately 80% of such wounds penetrate into the peritoneal cavity.[8] The rate was 81.81% in the present study, which is consistent with the literature. The most frequently injured abdominal organs following GSWs are reported to be, in descending order, the small bowel, colon and liver.[7] Such order was different in the present study, with the most frequently injured organs being, in descending order, the liver, colon, diaphragm and small bowel. The study conducted by Meral et al.[9] reported that 85.4% of patients with GSWs were male, and 49.8% were aged 18–30 years. In the present study, 97.72% of the cases were male, and 79.54% were aged 18–30 years. The study by Turan et al.[10] demonstrated that the ISS value (>20) after GSWs was a factor with an effect on mortality, but it was not an independent risk factor alone. In the present study, the mean ISS value was 24.38 (12–43) and was 41 in a single patient who died.

GSWs account for approximately 3.2% of all trauma cases, with a mortality rate of 10% according to 2019 data (Spring 2019 Trauma Quality Improvement Program report) on 300,000 patients.[11] A direct exploratory laparotomy is indicated if there is hemodynamic instability, peritonitis, evisceration, hematemesis and gross blood loss through the rectum after an abdominal GSW, according to the Western Trauma Association's algorithm. If none of the above is present, bedside FAST imaging and direct X-rays (abdominal/pelvic/chest X-rays) are performed. An exploratory laparotomy is also indicated in the presence of high-volume fluid in multiple intraperitoneal quadrants, free intraabdominal air or multiple abdominal GSWs. If none of the above is present and the abdominal examination is suspicious, an exploratory laparotomy can also be performed or a tomography scan can be obtained to determine the site of injury and also for preoperative surgical planning. If the patient is not operated and "Selective Nonoperative Management" is applied, then serial tomography scans are acquired at follow-up.[12] Tomography after GSWs provides information on the site and size of the trauma in a 3D imaging quality. The sensitivity and specificity of tomography after an intraabdominal injury are 90.5% and 96%, respectively.[13] The sensitivity and specificity of abdominal tomography with triple (oral + IV + rectal) contrast enhancement after GSWs is 100% and 96–100%, respectively.[14–16]

Thoracic tomography is helpful in assessing lungs, vertebrae and diaphragm, and diagnosing pulmonary embolism among patients with trauma. Direct chest X-rays have been assessed as totally normal in a considerable number of patients (14–65%) despite the presence of a significant injury. Therefore, the use of thoracic tomography in selected patients has led to a substantial change (18–41%) in patient management.[17] The mediastinum is also evaluated using thoracic tomography in GSW cases. A prospective study observed mediastinal injuries requiring no further assessment on thoracic tomography in 67% of the cases following GSW.[18] Diaphragmatic lacerations can be detected at a rate of 60–90% when the coronal and sagittal sections are simultaneously assessed.[19,20]

There is a tendency to perform a whole-body computed tomography (WBCT) in emergency departments where the first intervention is provided in GSWs, as with other trauma cases. However, contrast-induced nephropathy and radiation exposure should not be ignored along with its potential benefits.[21,22] The lifetime cancer-related mortality rate after whole-body tomography is 0.08%, which increases up to 2% with annual scans.[23–26] The estimated lifetime cancer risk from angiographic tomography of the coronary arteries and aorta is 0.87% for a 20-year-old woman and 0.15% for a 20-year-old man.[23] WBCT aims to reduce mortality without missing out potential injuries. Nevertheless, previous meta-analyses have demonstrated no effect of WBCT on mortality.[27,28] In this regard, the randomized controlled study by Sierink et al.,[3] which was conducted with multicenter trauma centers (REACT-2) reported that WBCT did not reduce hospital-related mortality, and recommended selective tomography.

In conclusion, there is currently a tendency towards selective tomography rather than WBCT for patients with trauma.

Similarly, targeted lower thoracic and upper abdominal tomography can be performed rather than whole thoracic and abdominal tomography scans. Findings, such as pneumothorax, hemothorax, effusion, consolidation and atelectasis, can only be identified by lower thoracic tomography and especially on follow-up scans after GSWs. Likewise, a follow-up assessment of solid organs, such as the liver, kidneys and pancreas, can be performed, and intraabdominal fluid and subdiaphragmatic air can be identified only by upper abdominal tomography. Thus, patients with GSWs are protected both from nephropathy and unnecessary radiation, with a further advantage of lower cost. The review of literature revealed no previous research on this matter. Thus, to our knowledge, the present study is the first in this regard.

## Limitations

The limitations of the present study were its single-center and retrospective design. Multi-center, prospective studies with a longer follow-up duration are needed.

## Conclusion

Selective lower thoracic and upper abdominal tomography scans following gunshot wounds may be used to not only detect pathologies but also as an efficient, fast, reliable and cost-effective imaging method at postoperative follow-up.

**Ethics Committee Approval:** Ethics committee approval was obtained from the SBU Gulhane T & R Hospital for this study (Date: 19.05.2020, No:2020-215).

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

**Authorship Contributions:** Concept: M.E., M.A.Ü.; Design: M.E., M.A.Ü.; Supervision: M.E.; Materials: M.A.Ü.; Data: M.A.Ü.; Analysis: M.E.; Literature search: M.A.Ü.; Writing: M.E., M.A.Ü.; Critical revision: M.E.

**Conflict of Interest:** None declared.

**Financial Disclosure:** The authors declared that this study has received no financial support.

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ORİJİNAL ÇALIŞMA - *ÖZET*

## Ateşli silah yaralanması olgularının ameliyat sonrası takibinde bilgisayarlı tomografi endikasyonları ve bilgisayarlı tomografi raporlarının kliniğe yararlılığı açısından değerlendirilmesi

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AMAÇ: Çalışmamızda ateşli silah yaralanmaları (ASY) nedeniyle tersiyer merkezimizde takip ve tedavisi yapılan hastaların alt toraks tomografisi (ATT) ve üst batın tomografi (ÜBT) sonuçlarının değerlendirilmesi amaçlandı.
GEREÇ VE YÖNTEM: Çalışmamız geriye dönük tanımlayıcı bir çalışma olarak planlandı. Ocak 2016–Nisan 2020 tarihleri arasında ASY nedeniyle kliniğimizde yatışı yapılan hastalar geriye dönük olarak analiz edildi. Ameliyat sonrası alt toraks ve üst batın tomografileri çekilen 44 hasta değerlendirmeye alındı.
BULGULAR: Hastaların 43'ü (%97.72) erkek 1'i (%2.27) kadın, yaş ortalaması 27.45 (dağılım, 20–53) idi. Hastanede kalış süreleri ortalama 14.93 (dağılım, 5–38) gündü. Çekilen tomografi sayısı ortalama 1.65 (dağılım, 1–4) olup Injuriy Severity Score (ISS) ortalama 24.38 (dağılım, 12–43) idi. Hastaların 31'i (%70.45) tabanca ya da tüfek gibi doğrudan ASY'ye maruz kalırken, 13'ü (%29.5) bomba patlaması sonucu ortama dağılan şarapnel parçaları ile sekonder olarak yaralandı. İlk operasyonları dış merkezde yapılan 23 (%52.27) hastaya klinik izlem yapıldı, 15 (%34.09) hasta ilk kez ameliyat edildi, 6 (%13.63) hasta ise 2. kez ameliyat edildi. ATT; 25 (%56.81) hastada solunum sıkıntısı nedeniyle,13 (%29.54) hastada dogrudan toraks travması nedeniyle, 6 (%13.63) hastada ise batın tomografisine ek olarak kontrol amaçlı çekildi. ÜBT ise 29( %65.90) hastada ameliyat sonrası kontrol amaçlı, 12 (%27.27) hastada ameliyat öncesi değerlendirme amaçlı, 3 (%6.81) hastada ise doğrudan batın travması olmadan, blastik travmanın etkilerini değerlendirmek için çekildi. ATT'de en sık gözlenen bulgu efüzyon (%47.7) idi. ÜBT'nin %61.36'sında patoloji gözlenmezken, %20.45'inde karaciğer lasersayonu gözlendi. ATT ve ÜBT'nin toplam maliyeti tüm toraks ve batın tomografisinin toplam maliyetinin yaklaşık yarısı kadardı.
TARTIŞMA: Ateşli silah yaralanması sonrasında çekilen selektif alt toraks ve üst batın tomografileri sadece patolojiyi saptamada değil ameliyat sonrası takipte de etkili, hızlı, güvenilir, kost efektif bir görüntüleme yöntemi olarak kullanılabilir.
Anahtar sözcükler: Alt toraks tomografisi; ateşli silah yaralanması; üst batın tomografisi.

Ulus Travma Acil Cerrahi Derg 2020;26(4):613-619 doi: 10.14744/tjtes.2020.26862