



Breast hematoma with active bleeding due to seat belt injury

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ABSTRACT

Breast emergencies are not frequent but play an important part in routine breast imaging applications. Diagnosis and identification of seat belt injury in emergency department are essential for patient management and early treatment of advanced cases. Herein we reported imaging findings of a patient who had prominent swollen at her left breast accompanying tissue edema and painful palpable mass formed by active bleeding hematoma as a result of seat belt injury due to a car accident. Radiologic examinations revealed hematoma in the breast accompanying active bleeding.

Keywords: Breast, computed tomography, hematoma, seat belt injury

INTRODUCTION

Breast emergencies are not frequent but play an important part in routine breast imaging applications. Emergencies are acute situations including inflammatory pathologies (mastitis and abscess), complications of interventional procedures (post-biopsy hemorrhage-hematoma, milk fistula), wire localization complications, trauma including hematoma, pseudoaneurysm and seat belt injury (1). As these pathologies require urgent treatments, it is very important to recognize imaging and clinical findings (1). Seat belt injuries have characteristic findings and there is a group of different organ injuries. It is important to know the mechanism and clinical findings of seat belt injury in breast in order to patient evaluation and management. In this case report, we are presenting a case of breast hematoma in a woman due to seat belt injury.

CASE REPORT

A 38-year-old female patient admitted to the emergency department of our hospital due to car accident. During the accident she was in the car, at the front, next to the driver. Clinical examination showed prominent swollen at her left breast accompanying tissue edema and painful palpable mass extending from upper inner quadrant to lower-outer quadrant with cutaneous bruising in overlying skin of whole breast. In the laboratory analyses, white blood cells were elevated (14.9 mm^3), hemoglobin and hematocrit values were in normal limits but near to the lowest levels (12.2 g/dL and 36.7%). Coagulation parameters were normal. The patient was redirected to radiology department for intravenous enhanced thoraco-abdominal computed tomography (CT) examination. Patient follow-up was realized by breast ultrasonography (US) in the hospitalization duration.

In CT examination, there was diffuse skin and subcutaneous tissue thickness accompanying prominent edema in the whole left breast. There was a multilobulated nodular lesion extending from upper inner quadrant to lower-outer quadrant of left breast with the largest dimension of 15 cm (Figure 1A) including a hyperdense area due contrast material extravasation as a result of active arterial bleeding (Figure 1B). There was no enhancement in the nodular lesion and diagnosed as hematoma. The source active bleeding was one of the branches of lateral mammarian artery, which is a branch of lateral thoracic artery (Figure 1C). US evaluation verified

Cite this article as: Başara Akın I, Özkan Aksoy S, Sevinç Aİ, Balcı P. Breast hematoma including active bleeding due to seat belt injury. Turk J Surg 2023; 39 (2): 173-175.

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Received: 01.08.2019

Accepted: 30.01.2020

Available Online Date: 19.06.2023

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DOI: 10.47717/turkjsurg.2022.4580

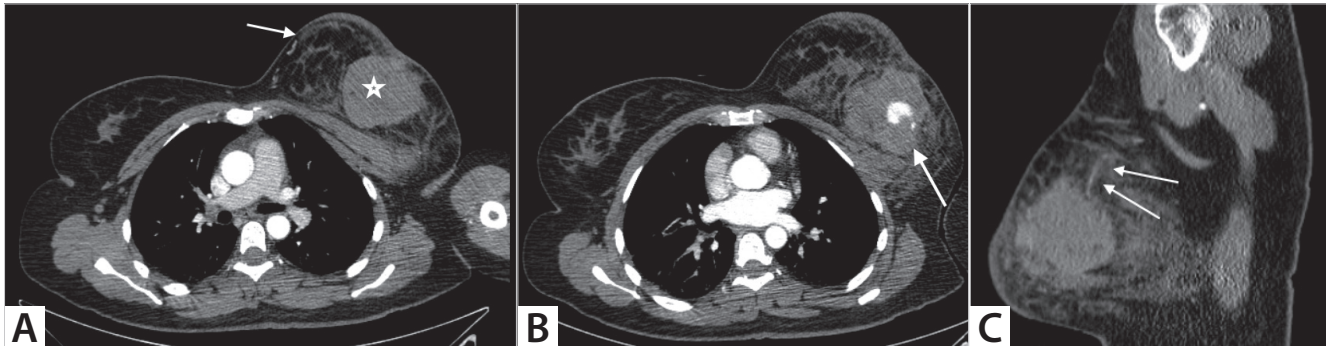


Figure 1. (A,B). Axial and (C) Sagittal intravenous enhanced CT images. (A) There is a multilobulated nodular lesion compatible with hematoma extending from upper inner quadrant to lower-outer quadrant of left breast (star). Additionally, the breast parenchyma is heterogeneous with diffuse skin and subcutaneous tissue thickness (arrow). (B) Hyperdense area at the central part of hematoma reveals contrast material extravasation due to active bleeding. (C) There is a thin enhancing arterial structure extending into the hematoma (arrows). This artery is compatible with one of lateral mammarian artery branch, which is originated from lateral thoracic artery is the source of active bleeding.

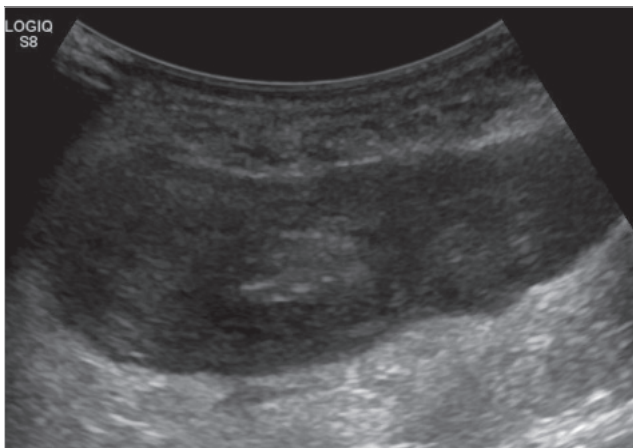


Figure 2. US image reveals hypoechoic heterogeneous nodular lesion including hypo-anechoic areas compatible with breast hematoma. Convex probe was used because of large size of breast and hematoma.

and revealed the hematoma (Figure 2). Compressed bandage was applied and the patient put in follow-up procedure.

DISCUSSION

Injuries formed by the harness of seat belt have characteristic findings and these findings form seat belt syndrome. In this syndrome, there is a group of injuries including, breasts and chest wall soft tissue injuries, fractures of clavicle, sternum, rib and spine. Additionally mesenteric injury and organ perforation especially organs with hollow are seen (2). There are multiple different variables affecting the injury. These variables are the type of seat belt, presence of air bag, the speed of the vehicle, age and the position of the patient (2). In a car accident, if the car is a left-hand drive, the passenger sitting next to the driver usually has injury at the upper inner quadrant of right breast and lower inner quadrant of left breast (3).

These patients represent with painful swollen breast including hematoma accompanying scar and bruising at the overlying skin and injuries at the line of seat belt (2,4).

In radiologic evaluation, mammography (MG) reveals increased linear density and additional skin thickening in the acute phase and fat necrosis afterwards (3). In US examination, there are non-specific findings including hypoechoic heterogeneous areas including hypo-anechoic fluid collections with debris compatible hematoma at different age and acute hemorrhage (3). There are band-shaped enhancement at the site of injury in magnetic resonance imaging. This site is hyperintense on T2 weighted and STIR images. After formation of fat necrosis, central fat elements are surrounded by rim enhancement and oil cysts can be seen (5).

In the management, primarily, a professional fitted bra is provided and symptomatic medication including non-steroidal and narcotics are applied for pain. If there is a breast deformation, breast reconstruction can be considered. Rarely breast avulsion and massive hemorrhage can be seen and in these cases emergent surgical procedures are applied (2).

In cases which can be put in follow-up procedure, physical evaluation and radiologic follow-up including MG 3-6 months after the injury (2).

CONCLUSION

Breast emergencies, especially seat belt injuries are very rare. Diagnosis of this entity is important in management and follow-up procedures. Identification of seat belt injury in emergency department is essential for patient management and early treatment of advanced cases.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - IBA, SÖA; Design - IBA; Supervision - AİS, PB; Materials - SÖA; Data Collection and/or Processing - IBA; Analysis and/or Interpretation - AİS, PB; Literature Search - IBA; Writing Manuscript - IBA; Critical Reviews - PB.

Conflict of Interest: The authors have no conflicts of interest to declare.

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

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OLGU SUNUMU-ÖZET

Turk J Surg 2023; 39 (2): 173-175

Emniyet kemeri yaralanmasına bağlı aktif kanama içeren meme hematomu

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ÖZET

Meme acilleri sık değildir ancak rutin meme görüntüleme uygulamalarında önemli bir role sahiptir. Acil serviste ağır olgularda emniyet kemeri yaralanmasının saptanması ve tanısı hastanın değerlendirilmesi ve erken tedavisinde önemlidir. Bu olgu sunumunda trafik kazası nedeniyle emniyet kemeri yaralanması sonucunda sol memesinde dokuda ödem ve aktif kanayan hematoma bağlı ağrılı palpabl kütleli eşlik ettiği belirgin boyut artışıyla başvuran hastaya ait görüntüleme bulgularının sunulması amaçlanmıştır.

Anahtar Kelimeler: Bilgisayarlı tomografi, emniyet kemeri yaralanması, hematoma, meme

DOI: 10.47717/turkjsurg.2022.4580