

ISOLATED BREAST TRAUMA

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SUMMARY: A women who sustained injury to a breast because of falling down is presented. Except isolated seat belt traumas, isolated breast traumas are very rare events. Trauma to the breast can produce lesions which cannot be distinguished from malignant lesions by clinical examination or radiological imaging. If we have any suspicion all such lesions should be biopsied to minimize the risk of missing a carcinoma.

Key Words: Breast trauma, breast carcinoma, trauma.

The breast or mammary gland is a distinguishing feature of the class mammalia. From puberty to death, the breast is subjected to constant physical and physiologic alterations that relate to menses, pregnancy, gestation, and menopause. Currently one of every two women will consult her physician for breast disease. (1) Many younger women experience breast discomfort, nipple discharge and a variety of their symptoms. Medical treatment is often ineffective and the indications for surgery remains controversial. (2)

Seat belt laws altered pattern of chest injuries, with an increased incidence of fractured ribs contrasting with fewer severe penetrating chest injuries in those not wearing seat belt. Breast injuries are probably more common now, because of greater compliance with seat belt law. Except seat belt traumas, isolated breast traumas are very rare events. Therefore they are interesting cases for General Surgery.

A CASE REPORT

K.D. is 50 years old, female with 109383 file number. She had fallen down on her right breast in the afternoon of October 9th 1995. One hour after this trauma, she admitted to Emergency Service. In her physical examination there was a painful, echimotic and edematous area of 15x20 cm. in her right breast. (Fig. 1) Nipple was retracted. She was evaluated as a blunt trauma. Her hemoglobin was 12 gr/dl, hematocrit 36%, serum alanin aminotransferase 26 IU/L, aspartate aminotransferase 30 IU/L, alkalene phosphatase 86

IU/L, blood sugar 106 mg/dl, creatinin phosphokinase 106 IU/L, blood urea nitrogen 26 mg/dl, serum creatinin 1.2 mg/dl, Prothrombin time 12 sec., and Partial thromboplastin time 32 sec. There was found no pathology in her lung and ribs. In her chest X-Ray there was radioopacity indicating the lesion of her breast. (Fig 2) She didn't have an extra pathology. In the ultrasonography of her right breast there was a smoothly marginated hypoechoic hematoma with 94 mm diameter. (Fig. 3) Mammogram showed marginated patchy hematoma 96 mm in diameter. We didn't use computerized tomography and magnetic resonance for diagnosis. Her serum Follicle stimulating hormon level was 5,6 mIU/ml (2,1-9 mIU/ml), Estradiol level 68 pg/ml (50-115 pg/ml), prolactin 12 ng/ml (3-20 ng/ml), progesteron 6,8 ng/ml (3,3-17,8 ng/ml).

She was hospitalized in General Surgery Service Broad spectrum oral antibiotic (sulbactam+ampisilin) and oral antiinflammatory+analgesic (Naproxen Na) were given to the patient. 30 cc defibrinated blood was taken from the hematoma with the needle puncture (20 G). In the first 24 hour cold application (4x1) used on her right breast. 24 hour after the treatment nipple retraction was decreased and hematoma was started to resorbe. Then hot application (4x1) was started. After two days hyaluronidase+ antiinflammatory + analgesic containing oinment (3x1) was added to the treatment. In her clinical follow up the edema, ecchymosis and pain of the breast was decreased. We stopped antibiotic and other drugs at 9th day. She was discharged in her 10th hospitalization day with hyaluronidase containing pomade (2x1). One week later in her control there was no pain and eodema. Ecchymosis was decreased so much that we stopped the pomade and hot application.

Fig.I: Her right breast one day after injury showing the painful, echimotic and edematous area of 15x20



Fig.II: In her chest X-Ray there was a radiopacity indicating the lesion of her breast.



Fig.III: Ultrasonography showed marginated hypochoic hematoma with 94mm in diameter.

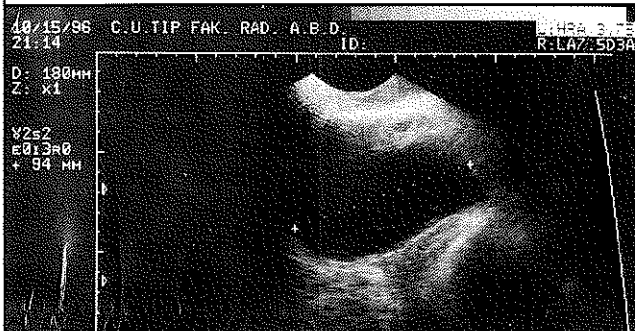
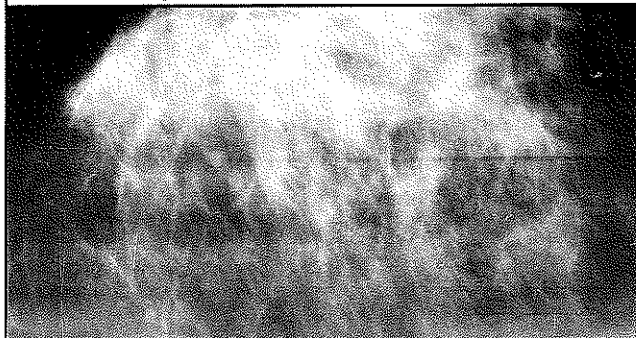


Fig.IV: Mamogram showed fibrosis which develop in a patchy distribution and with increased density.



We called her for weekly control.

DISCUSSION

Isolated breast traumas are rare events. Trauma to the breast often lead to the formation intraglandular hematomas. The abundance of fat tissue in this gland accounts for the relatively high frequency of fat necrosis and self digestion of fat by lipases after traumas i.e. fat necrosis cystosteatonecrosis, lipophagic granuloma. Broadly speaking hematomas are easily diagnosed by both mammagraphy and ultrasonography. However scarring and formation of lipophagic granulomas due to hemorrhage result in the diagnostic features which are difficult to distinguish from malignant breast nodules.

Pignatelly-V et al (3) published 40 patients with breast trauma with a clinically detected nodule and/or hematoma with skin retraction or thickening related to trauma. The ultrasonographic features of these patients at first observation were classified as follows; a fluid collection in 12 patients (%30), a solid nodule in 6 patients (%15) a cystic nodule in 10 patients (%25), diffuse parenchymal abnormalities in 4 patients (%10), calcified nodules in 6 patients (%15) and no findings in 2 patients (%5). In their serie US guided needle biopsy was performed in 10 patients, 5 patients underwent surgical biopsy, 4 had lipophagic granuloma and the other one a chronic inflammation.

Dio Piro PJ et al (4) published seat belt injuries of the breast in automobile accidents. In his series there were 5 cases and he had examined their sonographic and mammagraphic findings. In his paper he concluded that mammagrams in women with breast injuries caused by seat belts show areas of contusion, lipid cysts, and parenchymal calcifications occurring in a band like distribution corresponding to the path of the seat belt shoulder restraints across the chest. As a result he determined that at 1-2 months after breast injury caused by seat belt, mammagrams showed thin-walled fat-density cysts in a linear distribution and in less dense breasts an associated 2-3 cm band of increased density. The band of increased density was not seen in more dense breasts. These findings correlated with the line of contusion across the breast and resultant fat necrosis which ultimately led to the formation of lipid cysts. By 3-4 months after the injury the lipid cysts and contusion were less apparent and a line of fibrosis had developed.

In the 10'th day of our patient's clinical follow up ecch-

ymosis, pain and edema of her breast decreased. 4 week after her breast trauma there was a solid nodule in ultrasonographic examination of her right breast hypoechoic and smoothly marginated lipid cysts.

3 months after the injury the lipid cysts and contusion were less apparent and mammograms showed fibrosis had developed in a patchy distribution and with increased density (Fig. 4)

We didn't plan a surgical approach for her breast. 1 year after the trauma there was a scar formation due to hematoma in her breast. This kind of formation result in the diagnostic features which are difficult to distinguish from malignant breast nodules. The inflammatory reaction to the area of crushed tissue and hemorrhage results in a mass pathologically recognized as fat necrosis. Clinically the firmness and irregularity of the mass make differentiation from carcinoma difficult. The mammographic appearance of fat necrosis and cancer overlap considerably and radiological imaging cannot distinguish them. Therefore a tissue diagnosis remains the only secure means of excluding carcinoma.

Chaves-LR et al (5) described breast as a risk factor for breast cancer, but the simple conclusion that trauma caused the cancer is not substantiated by experimental evidence. Single episodes of trauma produce carcinoma in animals only when a potent topical carcinogen is also applied. (6) These cutaneous tumors occurred in only 13 percent of the subjects. In one of the publications of seat belt breast injuries, there were also adenocarcinoma with trauma in 3 of 5 patients. (7) But they describe that is carcinoma of the

breast and road traffic accidents are common coincidence is the likeliest explanation for their findings i.e. trauma was sustained by a breast which harboured pre-existing carcinoma.

In conclusion, trauma to the breast can produce lesions which cannot be distinguished from malignant lesions by clinical examination of radiological imaging. If we have any suspicion, all such lesions should be biopsied to minimize the risk of missing a carcinoma.

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