



IJCRR  
Section: Healthcare  
Sci. Journal  
Impact Factor  
4.016  
ICV: 71.54

# Post Burn Ductal Carcinoma of Breast- A Rare Case Report

Juhi Khanna<sup>1</sup>, Nandita P. Mehta<sup>2</sup>, Hansa M. Goswami<sup>3</sup>

<sup>1</sup>3rd Year Resident, Pathology Department BJMC, Ahmedabad, India; <sup>2</sup>Professor, Pathology Department BJMC, Ahmedabad, India;

<sup>3</sup>Professor & Head of Department, Pathology Department BJMC, Ahmedabad, India.

## ABSTRACT

**Objective:** A 25 years old female presented to outpatient department of General Surgery of Civil Hospital with breast lump. The objective was to investigate and diagnose the case.

**Material and Methods:** The case was clinically examined in General surgery department. FNAC was done to diagnose swelling. The resected tissue was sent to histopathology for confirmation of the diagnosis. Histological analysis and Immunohistochemical staining was done in Pathology department.

**Results:** On FNAC-Infiltrating Ductal Carcinoma of breast.

The patient was operated and tumor was resected. On gross examination, growth identified measures 4x3.5x2.5cm<sup>3</sup>, Cut surface is whitish solid, well defined and firm to hard.

On histological examination tumor was diagnosed to be Poorly Differentiated Ductal Carcinoma of Breast. Immuno-histo-chemical staining revealed that the cells were positive for Estrogen receptor and Progesterone receptor. This case was to be Post burn Ductal Carcinoma of breast.

**Conclusion:** Malignancy arising from Burn scar is rare, Squamous cell Carcinoma is most common Burn scar neoplasia and adenocarcinoma is extremely rare. So such cases should be thoroughly examined and followed.

**Key Words:** Post burn, Ductal Carcinoma

## INTRODUCTION

Malignancy arising from burn scar is extremely rare. Squamous cell carcinoma is the most common, type, other types are basal cell carcinoma, malignant melanoma and rarely sarcoma. Adenocarcinoma is extremely rare and only 4 cases have been reported till date and only one case of infiltrating Ductal carcinoma of breast has been reported. We report a rare case of post burn carcinoma in a young woman.

## CASE REPORT

A 25 years old female presented to outpatient department of General Surgery of Civil Hospital with breast lump. She had sustained thermal burns 14 years back, involving the right side of chest wall, arm and trunk. The burns were left to heal secondarily and no skin grafting was done. On exami-

nation, the burn scar was seen at right mammary area, axilla and arm. The right breast was deformed, nipple and areolar region was also unremarkable. Underneath the burn scar a large firm lump measuring 4x3cm<sup>2</sup> was seen in lower inner quadrant of right breast. The lump was adherent to chest wall but overlying skin was free. In the right axilla no lymph node was palpated. Left breast and axilla were unremarkable.

The patient was referred for fine needle aspiration (FNAC) from the lump which was performed as per standard technique. FNA from the lump yielded blood mixed aspirated which was processed as air-dried, hematoxylin and eosin stained smears were prepared. FNA smears show moderate cellularity with ductal cells arranged as irregular clusters and single cells (loss of cohesion). No myoepithelial cells seen. Ductal cells show moderate to severe nuclear atypia, enlargement, pleomorphism with evidence of occasional bizarre forms, irregular nuclear membrane and chromatin. The

### Corresponding Author:

Dr. Juhi Khanna, 3rd Year Pathology Resident, B.J. Medical College Ahmedabad,  
Mob: 9099945658; Email: Juhi762000@gmail.com

ISSN: 2231-2196 (Print)

ISSN: 0975-5241 (Online)

Received: 01.09.2017

Revised: 05.10.2017

Accepted: 12.11.2017

cytomorphology is of malignant breast lesion-Ductal carcinoma (DC) of breast-Robinsons cytological grade II. [Figure 1].

Patient underwent surgery and the specimen was received for histopathological examination.

**Gross examination:** Received specimen measured 22x15x2.5cm<sup>3</sup>. nipple areola was grossly not identified. One growth measuring 4x3.5x2.5cm<sup>3</sup> was identified. Cut section was whitish, solid, well defined and firm to hard in consistency. Growth is 3 cm away from superior margin, 3 cm away from inferior margin, 2 cm away from medial margin, 5 cm away from lateral margin, 1.5 cm from base. Total 12 lymph nodes were resected size ranging from 0.3x0.2cm<sup>2</sup> to 0.8x0.5cm<sup>2</sup>.

**Microscopic examination:** Sections showed histology of Poorly differentiated Ductal Carcinoma of Breast [Figure 2,3] with lymphovascular permeation by tumor cells. Stroma showed desmoplasia, lymphoplasmacytic infiltration, hemorrhage and necrosis. Surrounding breast showed fibrocystic changes. Section from all resected 12 lymph node does not show evidence of metastasis with histology of sinus histiocytosis. Section from resected surgical margin (superior, lateral, medial and inferior) and base do not show evidence of tumor cells.

**Conclusion:** Poorly Differentiated infiltrating ductal carcinoma (IDC) of breast with tumor free resected surgical margins and base.

Modified BR grade III, TNM STAGING: T2N0M0, AJCC Stage grouping: stage IIA. [Figure 2 and 3].

Immunohistochemistry showed positivity for Estrogen receptor and progesterone receptor.

## DISCUSSION

Cancers arising in old burn scar is rare. 30 years is the average latent period for development of malignancy. Most common cancer is Squamous cell carcinoma (71%), followed by basal cell carcinoma (6%), malignant melanoma (5%) and sarcomas (4%)<sup>[1]</sup>. Also rare case of malignant fibrous histiocytoma, dermatofibrosarcoma protuberans, pleomorphic liposarcoma and verrucous carcinoma have been reported in post burn patient<sup>[1,2,3,4]</sup>. Adenocarcinoma in burn scar is extremely rare, total 5 cases have been reported and one case out of 5 was of IDC breast. This is the second case of IDC Breast developing in post burn.<sup>[5,6,7,8]</sup>

It has been seen that majority of burn scar carcinoma occur in burns that have not been grafted. It may also arise

from chronic ulceration, but 50% patient had burn scar. The relatively avascular scar tissue with no lymphatic channels in scar may then act as immunological privileged site that allow the tumor to resist the body's usual defenses<sup>[9,10]</sup>. It is speculated that a carcinogenic toxin is produced from burned tissue and cicatricial tissue which prevents mechanism from checking the new tumor formation<sup>[11,12]</sup>.

As the breast is a modified sweat gland, DC post burn scar suggest that adnexal elements and adjacent subcutaneous tissue can also show malignant change.<sup>[7]</sup>

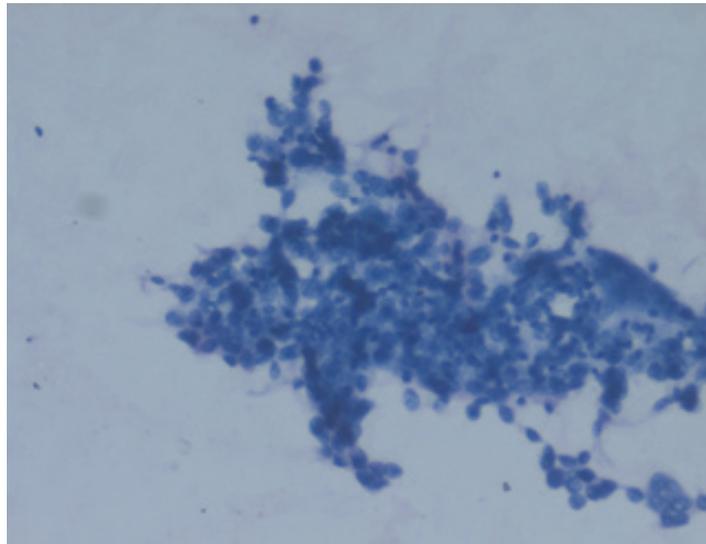
Promotion of rapid epithelisation and early grafting are the principles of treating initial burn.<sup>[9,10]</sup>

## CONCLUSION

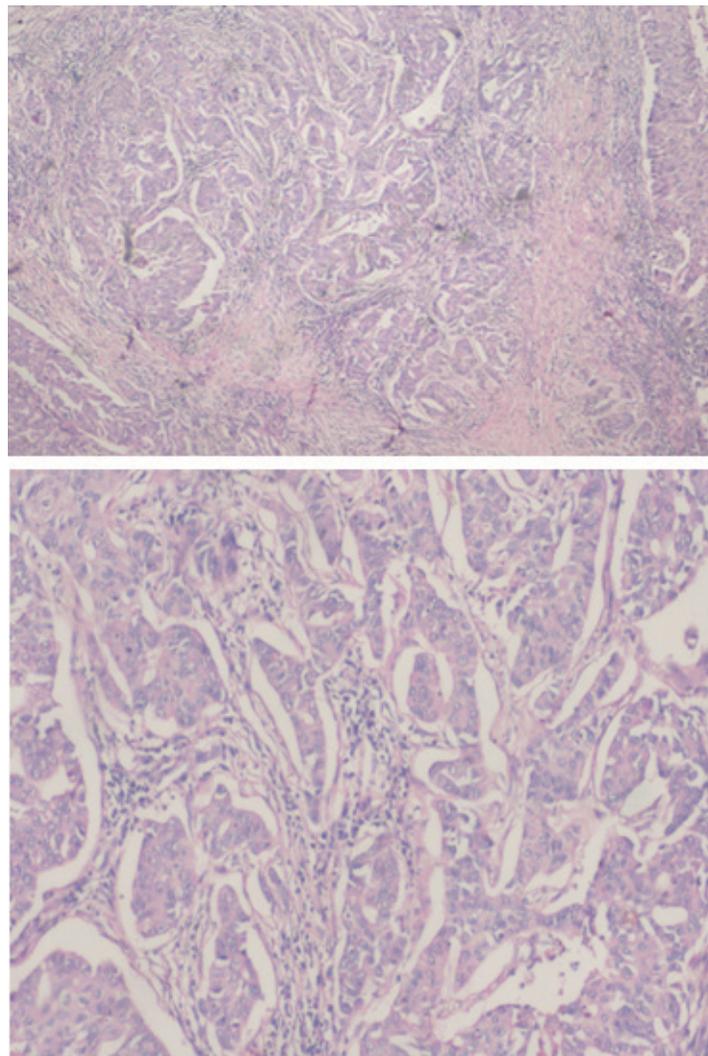
Burn scar Malignancy is rare and Adenocarcinoma can occur in the burn scar although squamous cell carcinoma is most common. So patients need to be thoroughly examined and followed up. Skin grafting should be encouraged after burn as it might help in prevention of cancer.

## REFERENCES

1. Kowal-vern, criswell BK. Burn scar neoplasm: A literature and review and statistical analysis.
2. Tanaka A, Hatoko M, Tada H, Kuwahara M, Iioka H, Nitsuma K. Dermatofibrosarcoma protuberans arising from a burn scar of axilla. *Ann Plast Surg*. 2004;52:423-5.
3. Nishimoto S, Matsushita T, Matsumoto K, Adachi S. A rare case of burn scar malignancy. *Burns* 1996;22:497-9.
4. Hunag CY, Feng CH, HSIAO YC, Chuang SS, Yang JY. Burn Scar Carcinoma *J Dermatology Treat* 2010;21:350-6.
5. Losanoff JE, Konard A, Sauter ER. Breast Cancer after severe burn in injury co incidence or consequence? *Breast J*. 2008;14:87-9.
6. Balakrishnan C, Noorily MJ Prasad VK, Wilson RP. Metastatic adenocarcinoma in a recent in a recent burn scar. *Burns* 1994;20:371-2.
7. Vogelin E, Feichler G, Luscher NJ. Breast cancer in previously burned skin: A Post Burn skin adnexal malignancy? *Burns* 1997;23:366-8.
8. Neha Singh, Seena Rao and Shyama Jain *J.Cytol.* 2013 Apr-Jun;30(2):139-141. doi:10.4103/0970-9371.112660.
9. Futrell JW, Myers GH Jr. The burn scar as an immunologically privileged site. *Surg forum* 1972;23:129-131.
10. Dellon AL, Potvin, Chretien PB, Rogentine CN. The immunobiology of skin cancer. *Plast reconstruct surg*. 1975;55:341-354.
11. Kennawa EC, Hieger J. Carcinogenic substances and their fluorescence *BMJ* 1930;1:1044-6.
12. Castillo JL, Goldsmith HS. Burn Scar malignancy in possible depressed immune setting. *Surg forum* 1968:19511.
13. Bostwick J, Pendergrast WJ, Vasconez LO. Marjolinsulcer: An immunologically privileged tumor? *Plast Reconstruct surg*. 1876:57:66-9.



**Figure 1:** FNA Showing Poorly Infiltrating Ductal Carcinoma.



**Figure 2 & 3:** Histopathological Section Showing Poorly Differentiated Ductal Carcinoma of Breast.