

## Multicentric Invasive Pleomorphic Lobular Carcinoma of Breast – An Uncommon Histopathological Variant

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### ABSTRACT

Invasive Pleomorphic Lobular Carcinoma is a very rare histopathological variant of breast cancer. It constitutes less than 1% of invasive breast carcinoma. We present a 70 year female presented with lump in right breast of 10 months duration. The lump was insidious in onset, progressive in nature and was associated with gradual skin color changes. Patient was a known diabetic and was on regular treatment. On fine needle aspiration cytology showed positive for carcinoma cells. Right modified mastectomy was performed. On histopathology reported as Invasive Pleomorphic Lobular Carcinoma – Grade II with multicentric nodules. Right axillary lymph nodes with perinodal infiltration of tumor were noted.

We are presenting this case for its uncommon type, clinical, histomorphological and immunohistochemistry pattern.

**Keywords:** Breast cancer, Lobular carcinoma breast, Alveolar pattern.

### Introduction

Invasive Pleomorphic Lobular Carcinoma (IPLC) is one of the distinctive subtypes of invasive breast carcinoma. IPLC was first described by Martinez V and Azzopardi in 1979,<sup>[1]</sup> and later on in 1987 by Page and Anderson.<sup>[2]</sup> Invasive pleomorphic lobular carcinoma represents less than 1% of invasive carcinomas.<sup>[3]</sup> Unlike the classic variant, the tumor cells of the pleomorphic variant of ILC are larger in size, large irregular, pleomorphic, hyperchromatic nuclei with occasional prominent nucleoli and having abundant eosinophilic cytoplasm. It is considered to be an aggressive tumor with poor prognosis.

### Case Report

A 70 year female presented with lump in right breast of 10 months duration. The lump was insidious in onset, progressive in nature and was associated with gradual skin colour changes. Patient was a known diabetic and was on regular treatment. On fine needle aspiration cytology, showed positive for carcinoma cells. Systemic examination was within normal limits. On X-ray and ultrasonography abdomen & pelvis, no evidence of metastasis was noted. On gross examination a specimen (figure-1) of right modified mastectomy measuring 24.1 x 22 x 2.0 cm and weighing 817 gm. Covering skin flap measures 16.5 x 14.5 cm. Tumor was reaching upto the nipple and areola on gross examination. Serial cut sections through the specimen, revealed a grey white, firm tumor measuring 10 x 4.5 x 2 cm, located in subareolar region. Tumor showed infiltrating borders. Tumor was reaching upto the deep surgical margin. Overlying skin showed discoloration

(areas of hyperpigmentation and hypopigmentation) and appeared fixed to the underlying tumor grossly. Nearest peripheral surgical margin was 3.5 cm away from tumor.

Adjacent breast tissue showed four nodular masses. Largest measuring 1.5 x 1 x 0.3 cm and smallest measuring 0.4 cm in maximum diameter. Cut section of which revealed grey white firm tumor. Serial sectioning showed three lymph nodes in axillary region (along the specimen), largest measuring 1.2 x 0.8 x 0.3 cm. Cut section of which was grey white and firm. Serial sectioning through right axillary dissection revealed 06 lymph nodes. Largest lymph node measuring 0.5 x 0.4 x 0.1 cm. Cut section of which appears grey white, firm.

On microscopic examination showed a tumor is composed of neoplastic cells arranged in cords, Indian file pattern, small nests, and alveolar pattern and scattered diffusely and multifocally in the breast parenchyma. Individual cells were round having moderately pleomorphic hyperchromatic or vesicular nuclei with 0-2 nucleoli and moderate to ample amount of eosinophilic cytoplasm. In areas targetoid appearance was noted around the terminal duct. Mitotic activity was increased. Tumor was seen diffusely infiltrating in single file with dense fibrovascular stroma separating the tumor. (Figure-2 A,B,C,D.)

On histopathological examination, it was reported as Invasive Pleomorphic Lobular Carcinoma. Areas of classical and alveolar pattern were noted. Tumor with multicentric nodules and extensive axillary lymph node with perinodal infiltration of tumor was evident.

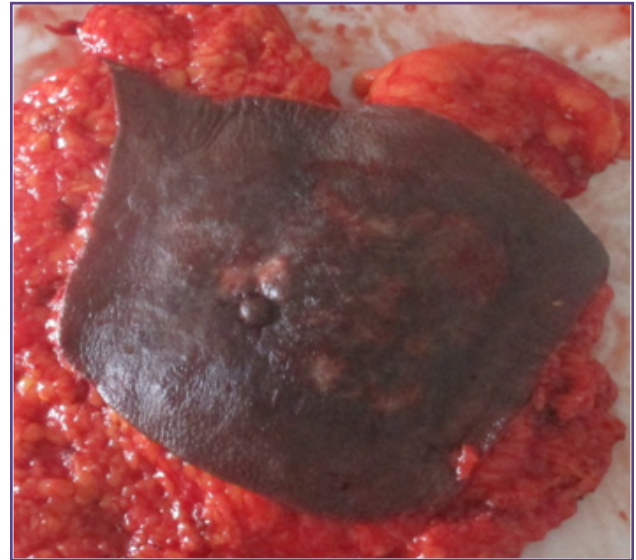
The immunohistochemistry study showed positivity for ER, PR and negativity for HER-2neu.

Our patient received treatment of right sided modified radical mastectomy with axillary clearance. She was kept on chemotherapy. On follow up patient responded well to treatment.

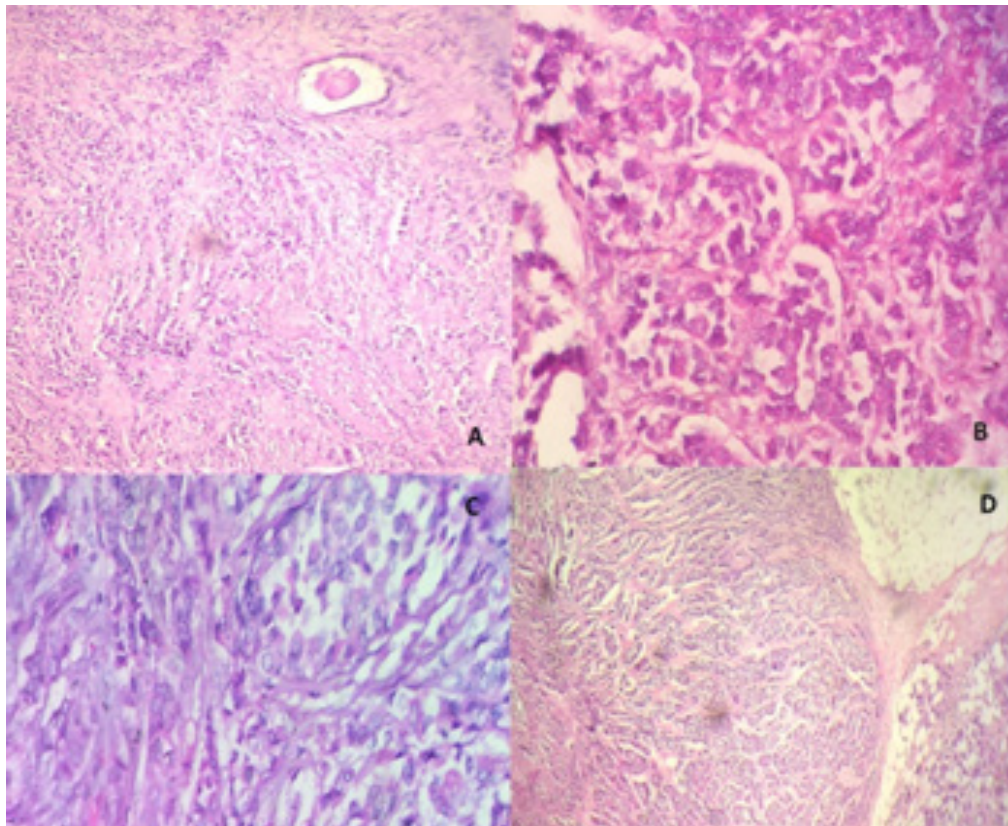
### Discussion

Infiltrating lobular carcinoma (ILC) of the classic type is well recognized type of invasive breast carcinoma. The less well appreciated is a group of variant forms of ILC includes solid, alveolar, mixed, apocrine, pleomorphic, signet-ring, histiocytoid, and tubulo-lobular variants.<sup>[1,4]</sup>

IPLC of breast is a very rare malignancy, which account for less than 1% of invasive carcinomas. The histomorphological features for diagnosis are pattern of classic lobular carcinoma i.e. invasive tumor with frequently single linear row (Indian file) in dense stroma, targetoid appearance around terminal ducts. Tumor cells are usually round with mild nuclear pleomorphism. IPLC



**Fig. 1:** Gross specimen of right modified mastectomy- the overlying skin showed discoloration, nipple retraction and fixed to the underlying tumor.



**Fig. 2A:** Photomicrograph showing Lobular carcinoma showing morphologic pattern of classic and pleomorphic type, Hematoxylin and Eosin, 100× **Figure 2B.-** Photomicrograph showing invasive pleomorphic lobular carcinoma, Hematoxylin& Eosin, 100× **Figure 2C:** Photomicrograph showing invasive pleomorphic lobular carcinoma solid, alveolar pattern, Hematoxylin & Eosin, 200× **Figure 2D :** Photomicrograph showing nodule with invasive pleomorphic lobular carcinoma, Hematoxylin & Eosin, 100×.

shows tumor cells are of high nuclear grade II or III and having solid, alveolar pattern.

IPLC on clinical presentation are usually large in size as compared with Invasive breast carcinoma (NOS). The mean size of tumor for IPLC was 3.2 cm while for IBC (NOS) is 2.2 cm. [5,6] The postmenopausal women are usually affected. In our case tumor was very large (10 x 4.5 x 2 cm) with multicentric nature. On mammography showed tumor mass with speculated lesion. Mammograms of pleomorphic breast cancer tumors will tend to show well-circumscribed or speculated mass lesions without evidence of calcification.

The FNAC finding in our case showed positive for carcinoma cells. However, differentiation from IBC and ILC is not possible. The study by Jagtap et al showed ILC with 84.6 % ER, PR positivity and HER-2 neu 23 % positivity on immunohistochemical study.[7] On IHC study our patient was ER, PR positive while HER-2Neu negative. PLCs were frequently negative for ER, PR and E-cadherin; and positive for p53 and HER-2 in few cases.[8]

PLBC is **highly aggressive** and usually presents as a grade II to III tumor.[9] At time of presentation may show evidence of distant metastasis. IPLC is associated with worse prognostic factors when the tumor size is larger and axillary metastasis compared with other types of lobular carcinomas.[9] There is a higher risk of recurrence and decreased survival rate.

## Conclusion

We are presenting this case of invasive pleomorphic lobular carcinoma for its uncommon type, clinical, histomorphological and immunohistochemical pattern. Our case showed multifocal tumor with extensive lymph nodal metastasis and aggressive clinical behavior.

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