



# Plasmacytoid appearance of cells on FNAC

## Breast - Diagnostic predicament for cytopathologist



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### INTRODUCTION

- ❖ Ductal carcinoma is the most common type of breast cancer.
- ❖ On fine needle aspiration cytology(FNAC) Breast, highly cellular smears with plasmacytoid appearance of cells creates dilemma in mind of cytopathologist.
- ❖ We report a case of 68 year old female who was referred to us with a lump left breast and was found to have abundant plasmacytoid cells on FNAC and histologically confirmed as Infiltrating Ductal carcinoma (IDC).
- ❖ This case emphasizes on recognizing cytomorphological features of IDC on FNAC when plasmacytoid cells are encountered and correlating it with radiological and histological findings for confirmation.

### CASE HISTORY

- ❖ A 68 year old female presented with lump in left breast since one month.
- ❖ Lump was insidious in onset, gradually progressive, non tender, no history of fever or nipple discharge.
- ❖ History of cerebrovascular accident 12 years back and associated with left sided hemiparesis.
- ❖ Known case of hypertension.
- ❖ On local examination, patient had 4x4 cm mass in left breast.
- ❖ Complete blood count (CBC) was normal.
- ❖ Bilateral Mammography : left breast showed a large irregular hyperdense mass lesion with speculation in lower inner quadrant (BIRADS IVC).
- ❖ Nipple retracted, no overlying skin change.
- ❖ Chest X ray- PA view shows bilateral upper zone consolidation.
- ❖ FNAC left breast lump (figure 1) showed ductal cells admixed with plasmacytoid cells (MGG stained) and (figure 2) revealed abundant plasma cells (pap smear).
- ❖ Final diagnosis on FNAC- features of a malignant tumor with differential diagnosis of a) Plasmacytoma and b) Ductal carcinoma.
- ❖ Patient underwent modified radical mastectomy of left breast .
- ❖ Histopathology of left breast showed Infiltrating Ductal Carcinoma grade III.
- ❖ Immunohistochemistry – breast panel showed Luminal type B Breast cancer .

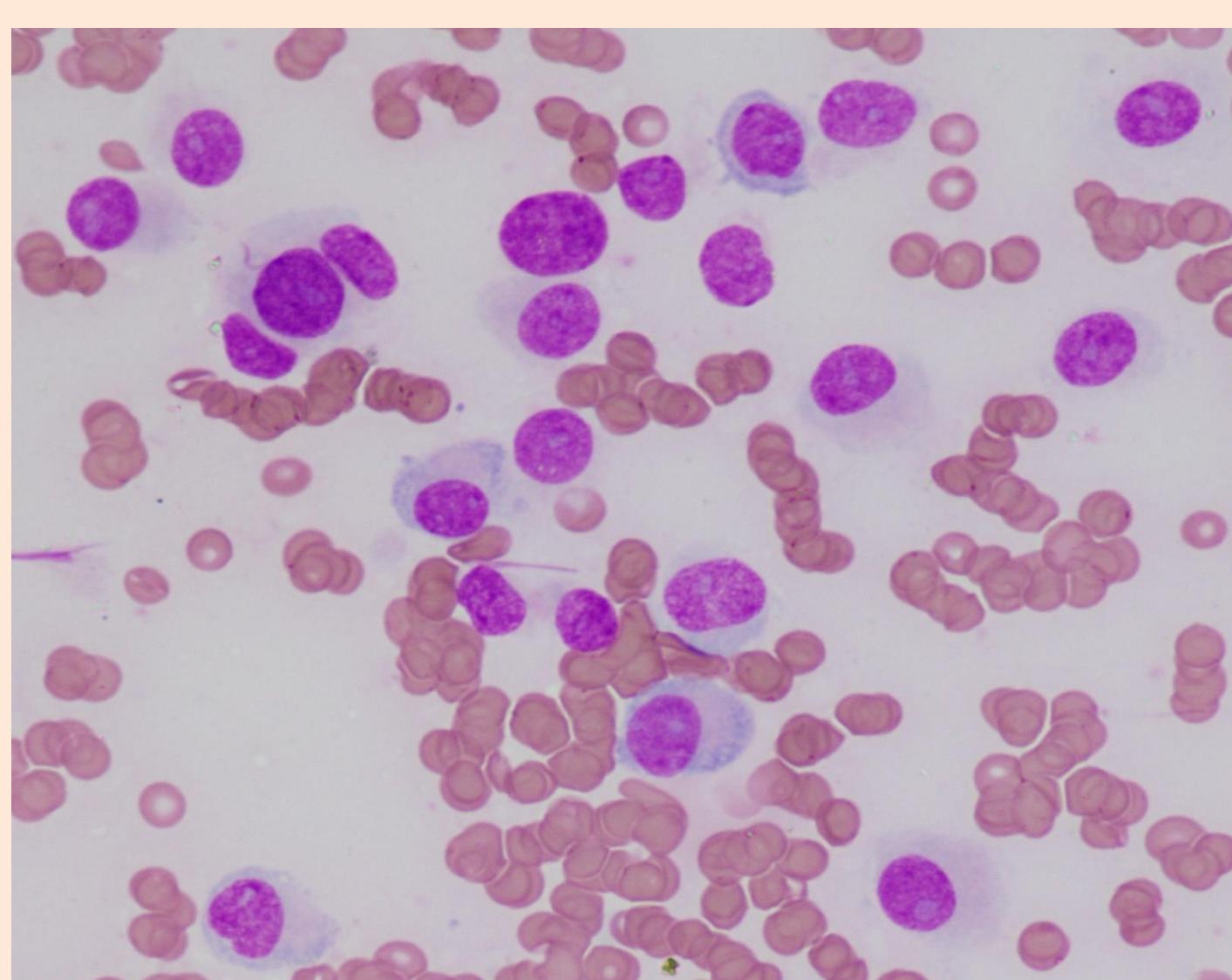


FIGURE 1: Ductal cells admixed with plasmacytoid cells (MGG 40x)

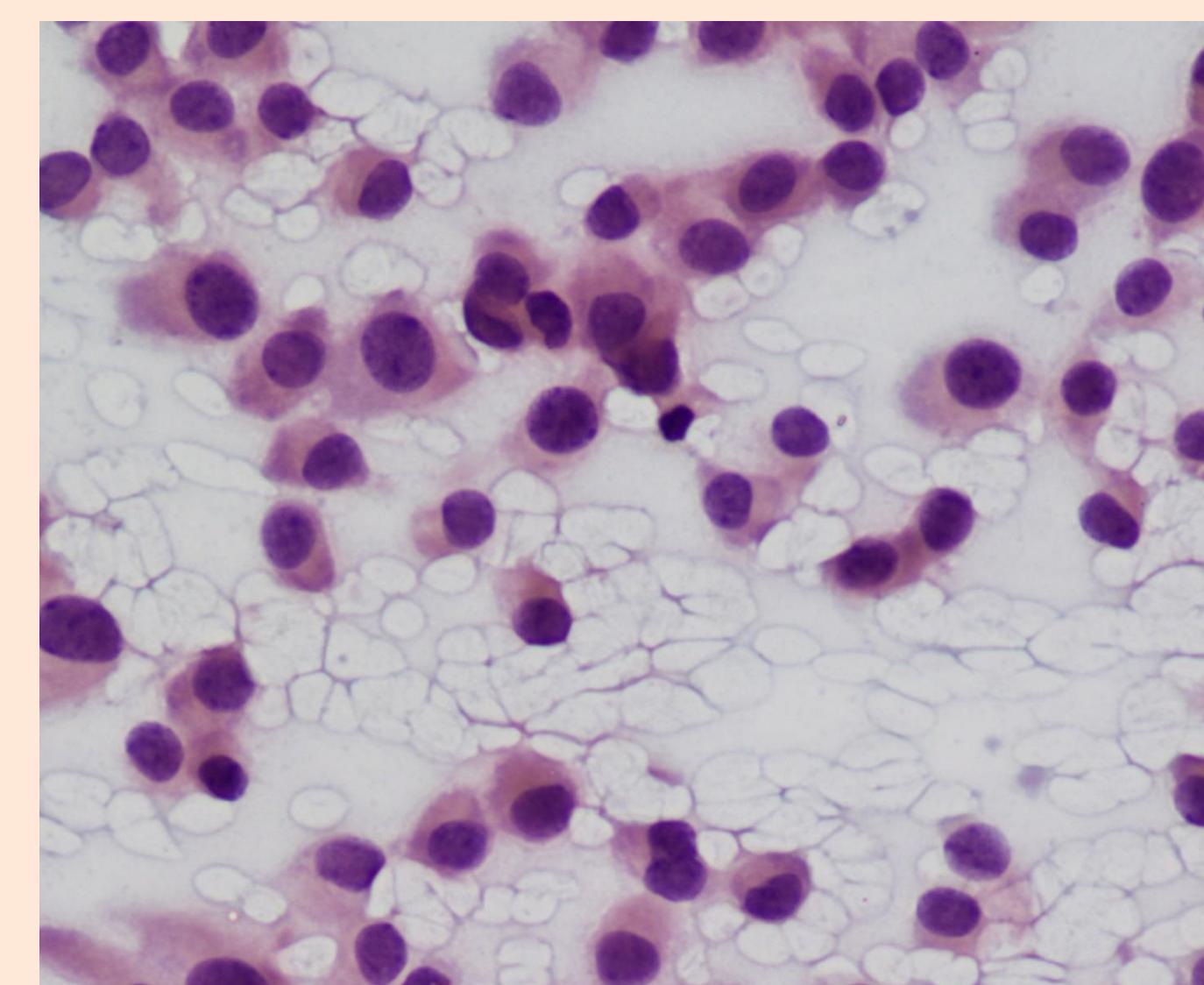


FIGURE 2 : Abundant plasmacytoid cells (PAP STAIN 40x)

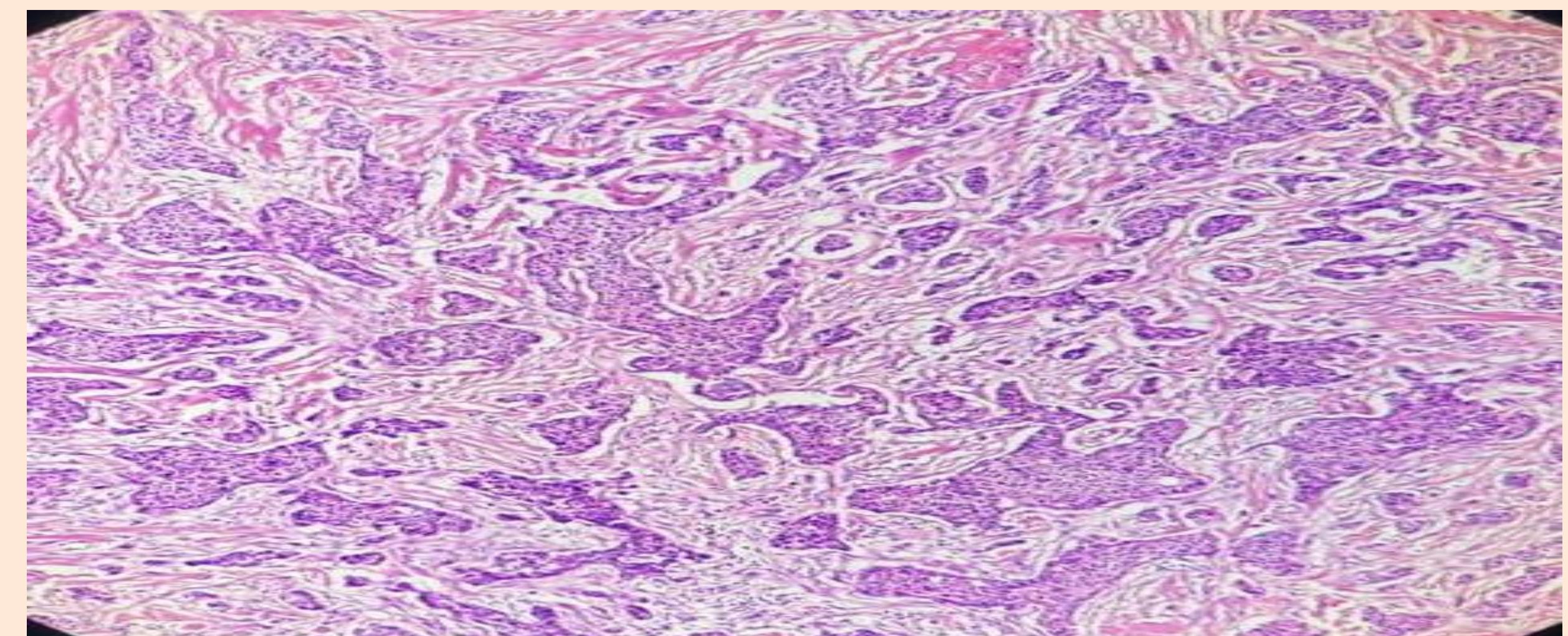


FIGURE 3 : INFILTRATING DUCTAL CARCINOMA GRADE III (H&E 40x)

### DISCUSSION

- ❖ IDC of breast becomes tricky to diagnose in presence of abundant plasmacytoid cells.(1)
- ❖ Plasmacytoid appearance of tumor cells on breast aspirates are seen in invasive ductal carcinoma –secretory type, invasive lobular carcinoma-pleomorphic type, carcinoma with endocrine differentiation, primary plasmacytoma of breast and rare granular cell tumor.(1)
- ❖ In this case, cellular smears with plasmacytoid cell appearance with perinuclear clearing caused diagnostic dilemma with perinuclear hoff of plasma cells.(2)(4)
- ❖ Hence ductal carcinoma with plasmacytoid morphology can be mistaken as primary Plasmacytoma.(2)(3)
- ❖ Hence correlation with radiology and histology becomes mandatory.(3)

### Conclusion

- ❖ Plamacytoid appearance on breast aspirates can mimic a Ductal carcinoma.
- ❖ It should not be confused with primary plasmacytoma and other differential diagnosis should be considered.
- ❖ FNAC Breast should be followed by histology when encountered with plasmacytoid cell morphology.

### References

1. Plasmacytoid appearance of tumor cells in breast aspirates on fine needle aspiration cytology: Diagnostic predicament for the cytopathologist.Mutreja D, Kinra P, Patil SD, Tewari V.J Cytol. 2015 Jan-Mar;32(1):75-6.
2. Secretory Carcinoma Breast - The Characteristic Cytological Features in Diagnosis of This Rare Carcinoma.Gupta S, Gupta P.J Cytol. 2020 Jan-Mar;37(1):63-65.
3. Signet ring cells in fine needle aspiration cytology of breast carcinomas: review of the cytological findings in ten cases identified by histology.Kelten C, Akbulut M, Zekioğlu O, Kapkaç M, Erhan Y, Ozdemir N.Cytopathology. 2009 Oct;20(5):321-7.
4. Pleomorphic lobular carcinoma of the breast - A diagnostic dilemma. Augustine AJ, Kini H, Lobo FD, Pai R, Ramesh BS, Rau AR. J Cytol. 2007;24:193–5