**CYTOLOGICAL GRADING SYSTEM IN BREAST CARCINOMA: CORRELATION WITH ESTABLISHED GRADING SYSTEM, HORMONAL STATUS AND KI 67 PROLIFERATION INDEX**

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**INTRODUCTION**

- Breast Carcinoma - 2nd most common malignant tumor in Indian women.
- About 99% of the cases are accurately diagnosed by Triple Test i.e. – Clinical Examination, Imaging, Non Excision Biopsy FNAC/ Core Needle.
- FNAC - Recently overtaken by Core Biopsy, however in developing countries it is still practiced
- Grading on FNAC smears - Important and gives an idea about further management
- Ki-67 proliferative index (PI) - has prognostic and predictive value in invasive breast carcinoma (IBC)

**MATERIAL & METHODS**

- Retrospective study - conducted over 3.5 years (Jan 2015- June 2018)
- FNAC – As per standard technique
- Air dried Giemsa stained smears studied
- Study Population - 100 patients diagnosed as breast carcinoma on cytology
- Ki67 PI - performed in 75 corresponding histological sections.
- FNA smear - graded according to various cytological grading systems (CGS)
- Histological sections - graded by modified Scarff Bloom Richardson (SBR)
- The closest CGS was elucidated with Histological Grade (HG).
- Ki 67 PI – graded on histological sections as high grade (>15%), low grade (<15%) and was correlated with CGS and HG.

**RESULTS**

- Diagnoses (100 cases) - IDC-NOS (96), mucinous variants (2) and, with neuroendocrine differentiation (2).
- Robinson’s GS - best correlated with HG (p<0.001), followed by Taniguchi’s and Khan GS.
- Fan’s CGS - found to be least correlated with HG.
- Among the CGS parameters:
  - chromatin density was best correlated with HG (p<0.001), whereas cell discohesion was least correlated.
  - No correlation was found between Hormone Receptor Status and CGS.
- Ki 67 PI assessment - 32/75 (42.6%) showed high index and, rest (57.3%) showed low index with two tier scoring system, and a significant correlation was found with Taniguchi GS (p<0.003)

**CONCLUSION**

- Robinson’s CGS - correlated best with SBR considered as gold standard
- Ki67 PI best correlated with Taniguchi Grading System
- No significant correlation was found with ER/PR/Her2 status

**REFERENCES**