Results: Overall, diagnostic reproducibility was similar for all systems of histologic grading, with kappa values of 0.57 ± 0.10, 0.67 ± 0.09 and 0.67 ± 0.09 for Holland, Van Nuys classification and modified Black nuclear grade system, respectively.

Conclusions: The intraobserver diagnostic reproducibility of DCIS with the use of digital images and a point scoring system in a web-based survey compared to subjective analysis is moderate to good for Holland, Van Nuys and modified Black nuclear grade system. The use of this point scoring system does not appear to pose a major risk of presenting large (2-step) diagnostic disagreements. These findings indicate that the use of this web-based survey to grade objectively DCIS lesions is a promising, useful and a reliable diagnostic tool.

179 Poster

Biomarker (ER, PR, Her2 and Ki67) Testing On Core Needle Biopsy Specimens From Primary Breast Cancer − Their Usefulness and Limitations

H. Nagaoka[1], T. Takahashi[1], K. Endo[1], K. Sugitani[1], K. Nakagami[1], Y. Kim[1], Y. Yoshida[1], U. Ooki[1], J. Horiguchi[2], I. Takeyoshi[2]. *[1]Ogawa Redcross Hospital, Department of Surgery, Saitama, Japan; [2]Gunma University, Department of Thoracic and Visceral Organ Surgery, Gunma, Japan*

Background: Accurate evaluation of biomarker [estrogen receptor (ER), progesterone receptor(PR), human epidermal growth factor receptor type 2 (Her2) and Ki67] status is important for primary breast cancer patients to determinate their course of therapy. We usually obtained these information from core needle biopsy specimens (CNBs) preoperatively, but diagnostic differences between CNB and surgically resected specimens (SRs) was not available. We investigate the correlation of ER, PR, HER−2 and Ki67 status in the CNBs with those observed in SRs.

Methods: A total of 102 patients with invasive ductal carcinoma without preoperative therapy were included in this retrospective study. CNB was underwent with 16Gauge needle under ultrasound-guide and 3−5 specimens were taken. ER, PR, Her2 and Ki67 status were determined by immunohistochemistry in invasive margine of tumor. ER and PR (⩾3: Allred score), Her2 (score3: ASCO/CAP), Ki67 (>14%: Ki67 labeling index) were evaluated as positive case.

Results: The sensitivity, specificity, accuracy were well enough in ER (70.8%, 94.4%, 87.2%), PR (74.2%,95.8%,87.8%), Her2 (97.2%, 83.3%,96.2%) status, while but it seems to be worse in Ki67 (70.2%, 85.7%, 74.2%). We sought the factors which drive down the diagnostic rate, clinicopathological characteristics(age, tumor size, lymphnode status, histological grade) and the number of CNBs were not concerned their accuracy.

Conclusion: CNB can be useful for ER, PR and HER2 status determination, while its usefulness for Ki67 status is limited. We should use caution to evaluate tumor proliferation with CNBs.

180 Poster

Aurora Kinase-A and Ki67 Expression in Primary Breast Carcinomas and Corresponding Distant Metastases

A.M. Tokes[1], A.M. Szasz[1], I. Kenessey[1], L. Lukacs[2], J. Kulka[1]. *[1]Semmelweis University Budapest, 2nd Department of Pathology, Budapest, Hungary; [2]Honvedkorhaz-AEK, Department of Radiology, Budapest, Hungary*

Background: This study evaluated the expression of Aurora-kinase A (AURKA) and Ki67 in a set of primary breast carcinomas and corresponding distant metastases of different localizations.

Methods: Fourty-six primary breast carcinomas and corresponding fourty-six distant metastatic paraffin-embedded samples were analysed for AURKA and Ki67 expression by immunohistochemistry. Another set of twenty breast cancer cases with no recurrence on 10-year follow-up were also evaluated representing control cases.

Results: Among the primary tumours 27 developed bone metastases, two metastasized to lung, six to central nervous system (CNS) and 11 primary tumours gave multiple metastases. AURKA showed strong positive correlation with Ki67 expression ($P < 0.05$). Primary breast carcinomas developing metastases are characterized by significantly higher level of Ki67 ($P = 0.003$) expression compared to primary breast carcinomas without metastases. No statistically significant difference were observed ($P > 0.05$) in AURKA expression when comparing the two groups of primary breast carcinomas. No significant differences were observed in AURKA and Ki67 expression between primaries metastasing to bone, CNS, lung or primaries with multiple metastastatic sites. By analysing the distant metastases at different locations, significantly higher levels of AURKA and Ki67 were detected in CNS metastases compared with lung ($P = 0.036$, $P = 0.0065$, respectively) and bone metastases ($P = 0.003$, $P = 0.0001$, respectively). AURKA overexpression in primary breast carcinomas was not associated with distant metastases free survival (DMFS) ($P < 0.676$), whereas higher Ki67 expression was significantly associated with shorter DMFS ($P < 0.0002$). Younger age (<56 years) was also associated with shorter DMFS ($P < 0.00001$).

Conclusions: Ki67 index appears to distinguish a fraction of primary breast carcinomas with worse prognosis, being associated with shorter DMFS. The fact that significantly higher levels of AURKA and Ki67 were detected in CNS metastases compared with lung and bone metastases suggests that this group of patients might be suitable for future targeted therapies with Aurora-kinase A inhibitors.

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181 Poster

Breast Carcinoma in Mexican Women, Molecular Subtypes Using Immunohistochemical Surrogate Markers

V. Pérez Sánchez[1], H.A. Maldonado-Mtz[1], D. De León Trenado[1], E. Bargalló Rocha[2], A. Stankov Dragan[2], A. Alvarado Miranda[3], A. Ojeda Gaona[1], F. Lara Medina[3]. *[1]Instituto Nacional De Cancerología, Patología, Mexico D.f, Mexico; [2]Instituto Nacional De Cancerología, Cirugia De Tumores Mamarios, Mexico D.f, Mexico; [3]Instituto Nacional De Cancerología, Oncología Médica, Mexico D.f, Mexico*

Background: Breast cancer (BC) has been classified in five different 'molecular subtypes' by gene expression profiling (luminal A, luminal B, HER2, basal like and normal like). Some 'key' genes in these expression profiles have been routinely examined and reported by inmunohistochemistry (IHC). There are few studies correlating tumor features and 'molecular subtypes' defined by IHC expression of these 'key' genes (referred as 'surrogate markers'). The aim of this study was to evaluate a molecular classification scheme based on IHC, and its correlation to tumor features in Mexican women (Mw) with BC.

Materials and Methods: Retrospective study of 478 Mw with ductal infiltrating BC. We assessed estrogen receptor (ER) and progesterone receptor (PR) employing HScore index. Her2 was evaluated according to ASCO/CAP guidelines. Ki-67 was recorded as percent of the positive tumor cells. Criteria for tumor classification are shown in the table. Clinical and pathologic features were compared. Data were analyzed with SPSS 17.

Category	Criteria used in this study
Luminal A (LUMA)	ER ⩾ 200, Her2 negative
Luminal B (LUMB)	ER 11–199 or PR >10,Her2 negative
Her2	ER and PR ⩽ 10, Her2 positive
Triple negative (TPN)	ER and PR ⩽ 10, Her2 negative
Luminal A–Her2 hybrid (LAHH)	ER ⩾ 200, Her2 positive
Luminal B–Her2 hybrid (LBHH)	ER 11–199 or PR >10, Her2 positive

Results: Tumors were classified as follows: LUMA 83 cases(17.4%), LUMB 166(34.7%), Her2/neu 42(8.8%),TPN 108(22.6%), LAHH 18(3.8%) and LBHH 61(12.8%). Tumor size was greater in TPN and LUMB. High histological grade was more frequent in TPN (34.8%). Necrosis was more frequent in TPN than LUMA and LUMB ($p < 0.05$). Lymphoplasmacytic infiltrate was more common in TPN, Her2 and LAHH ($p < 0.05$). TPN, Her2 and LAHH showed higher Ki-67 index ($p < 0.05$). Metastasis to lymph nodes were more frequent in TPN and LUMB. LBHH, LAHH, Her2 and TPN were respectively the most frequent subtypes to develop metastases. LUMA was among the most frequent subtypes presenting at early stages, while TPN did so in late stages.

Conclusion: This is the first study on Mw that classifies BC according to 'molecular subtypes' by 'surrogate markers'. Tumor features related to different subtypes are concordant with previously reported data. In contrast with previous reports from other countries, we observed more frequently LUMB, LBHH and TPN in Mw. While a high proportion of TPN has been previously reported in Mw, this status for LUMB awaits for confirmation.