Literature Update - Surgical Pathology
(Snippets in Surgical Pathology)
August 2009

American Journal of Clinical Pathology, Vol. 132, No. 2, August 2009

- **Page 211**: A double sequential immunostain (CK5/6 and AMACR) for problem prostate biopsies demonstrated a 100% (CK5/6) and 97% (AMACR) specificity for cancer, respectively.
- **Page 221**: The importance/role of the autopsy is once again demonstrated in this study showing the varying prevalences/trends of opportunistic invasive fungal infections in AIDS patients. During the period 1984-2002, a decrease in Pneumocystis/cryptococcus and an increase in candida/zygomycosis with aspergillus/histoplasmosis remaining stable.
- **Page 237**: The role of circulating (in blood) and disseminated (in bone marrow) tumor cells in breast cancer is slowly gaining a threshold in management/prognosis. This paper reviews the current methodologies for the detection of these cells, including immunomagnetic capture (with epithelial targeted antibodies) and molecular methods (RT-PCR for amplification).

Journal of Clinical Pathology, Vol. 62, No. 8, August 2009

- **Page 673:** Criteria for screening colonic tumors in HNPCC (Lynch syndrome) are well established (see Bethesda guidelines) with no equivalent guidelines for endometrial cancers. This paper reviews criteria (tumor infiltrating lymphocytes, dedifferentiated/undifferentiated carcinoma, lower segment origin and synchronous clear cell carcinoma of the ovary) and proposes a more formal guideline structure to be formulated.
- **Page 699**: This author (KC) has long campaigned the shift from ABC immunodetection systems to the polymer dextran system, due to the dangers/pitfalls of endogenous biotin/avidin cross reacting with the former system. The present study underscores this need by demonstrating that biotin-free systems provide a stronger IHC signal for the evaluation of estrogen receptor in breast cancers. So, if you have not yet taken the plunge…
- **Page 760**: Phosphaturic mesenchymal tumors typically present with osteomalacia. These rare morphologically heterogeneous lesions are well established in the literature (see AJSP 2004; 28:1). This study presents two cases of PMT without oncogenic osteomalacia.

Human Pathology, Vol. 40, No. 8, August 2009

- **Page 1057**: For those of you planning to engage in, or are currently practicing telepathology, these series of papers cover all aspects, including virtual microscopy and whole slide imaging referable to both education and diagnostic services (the latter including frozen sections, both on-site and distant). With most medical schools using digital images for laboratory teaching, a breed of students are being produced who would prefer digital images for diagnostic purposes (similar to radiology). This therefore demands that required standards and quality assurance be implemented.

Histopathology, Vol. 55, No. 2, August 2009

- **Page 145**: The IHC and genetic profile of acquired cystic disease associated renal cell carcinomas show a proximal nephron phenotype (CD10+, RCC+, p504+) with CGH/FISH gains on chr 3&4 (and 7/17 similar to papillary carcinoma).
- **page 174**: Alas, the sentinel lymph node (SLN) has arrived in GYN tract cancers! This study explores the detection of micrometastases/single tumor cell deposits being typical of LS-associated vulvar squamous cell carcinoma. Regrettably, serial sections and IHC were required to detect positive SLN!

American Journal of Surgical Pathology, Vol. 33, No. 8, August 2009

- **Page 1113**: Basaloid carcinomas are well described in the upper aerodigestive tract and salivary glands. This study presents 12 cases in the thymus, exploring the relationship to adenoid cystic carcinoma. Thymic basaloid carcinomas are aggressive with 75% presenting with lymph node involvement and 35-50% with distant metastases.
- **Page 1125**: Prophylactic salpingo-oophorectomy specimens (from BRCA+ patients) may rarely harbor occult primary or secondary (breast) cancers. This study explores a cohort with an in-depth study of mimics of occult cancer (e.g. hyperthecosis, adrenal rests, hilus cell nodules/hyperplasia, etc.).
- **Page 1137**: Salivary gland carcinomas with high grade transformation (previously AKA dedifferentiated carcinoma) have been recognized in adenoid cystic carcinoma, PLGA, mucoepidermoid and, in the present series, acinic cell carcinoma. Nuclear pleomorphism, increased mitoses, solid or glandular and necrosis characterize the high grade transformation.
- **Page 1146**: The dermies are now FISHing! A set of four probes targeting 6p25, 6 centromere, 6q23 and 11q13 aberrations provide the highest diagnostic discrimination for melanomas (~87% sensitivity and ~95% specificity) (see Mod Pathol 2008; 22:989).
- **Page 1157**: It would appear that ovarian endometrioid carcinoma may have a dualistic pathology:
  Low grade: β-catenin+, MSI, KRAS mutation
  High grade: p53 overexpression (without any of the above)
- **Page 1173**: Sarcomatous transformation in teratomatous germ cell tumors is well recognized. This study examines a cohort of primary testicular tumors (rhabdomyosarcoma commonest, followed by high grade unclassified) and demonstrates that such tumors confined to the testis carry the same mortality as testicular germ cell tumors without sarcomatous components (for comparable stage). However, tumors with metastasis had increased mortality.
- **Page 1179**: A small series of SETTLE (spindled epithelial tumors with thymus-like elements) involving the thyroid (11 cases) is revisited. This study demonstrates the absence of tx;18 helping discriminate from synovial sarcoma – the crucial differential diagnosis.
- **Page 1206**: UTROSCT (uterine tumor resembling ovarian sex-cord-like tumor) may occur as a focal component of endometrial stromal tumors (EST type I, t7;14) or as a predominant component (type II). This study demonstrates the absence of t7;14, affirming the latter distinct from type I. Note that the genes involved in type I EST are JAZF1-JJAZF1 and have been demonstrated in about 50% of EST with a variety of morphological features (smooth muscle, myxoid and fibrous differentiation).
- **Page 1220**: Intermediate grade II nuclear features (between low grade I and high grade III) carry the molecular profile of the latter (p53+) and not the former (BRAF, KRAS, ERBB2).
- **Page 1225**: Clusterin is a follicular dendritic cell glycoprotein involved in lipid recycling and apoptosis, and is positive in the large mononuclear cells of tenosynovial giant cell tumors (TSGCT) (and normal synoviocytes), attesting to synovial differentiation; and is negative in the smaller histiocytoid cells (CD68, CD163 +).
  Note that these tumors are recognized as a neoplastic process due to consistent chromosomal abnormalities(gains chromosomes 5&7, rearrangement 1p11).
- **Page 1249**: Following the introduction of several manifestations of the systemic IgG4-related lymphoplasmacytic sclerosing disease, please welcome the new kid on the block: IgG4-related sclerosing PACYMENINGITIS!
- **Page 1253**: Similarly, NUT midline carcinoma, also previously reviewed in these pages (AJSP 2009; 33:484) is now described in the parotid gland. Primarily thymic/upper aerodigestive tract (midline), these undifferentiated basaloid carcinomas with focal squamoid differentiation are aggressive and uniformly fatal (afflicting young adults) and carry t15;19 involving the NUT gene (nuclear protein in testis).

Modern Pathology, Vol. 22, No. 8, August 2009

- **Page 985**: The case for routine examination for occult carcinomas (serous and endometrioid) is presented with the SEE-FIM (serial sectioning and entire examination of fimbrial end) sampling method of fallopian tubes. Presently, this is only done in patients with prophylactic salpingo-oophorectomy for hereditary breast cancer (BRCA+).
- **Page 989**: The dermies are FISHing again! The same group (see AJSP 2009; 33:1146), using the same system of targeting four genes, is discriminatory in distinguishing benign from malignant melanocytes in melanomas arising from nevi. This becomes critical when microstaging and determining the deeper dermal component.
- **Page 1049**: Small intestinal inflammatory fibroid polyps also harbor PDGFRA gain of function mutations in about 55% of cases (majority exon 12) (see previous gastric IFP with similar finding). Hence the contention is that these should be regarded as PDGFRA-driven benign neoplasms. Note that the majority (95%) express PDGFRA protein.

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