13th European Pathology Congress

August 02-03, 2017
Milan, Italy

Scientific Tracks & Abstracts

DAY 1

Sessions

Cancer Cytopathology | Comparative Pathology | Head & Neck Pathology | Renal Pathology | Hematopathology | Surgical Pathology | Clinical Pathology | Diagnostic Pathology | Oncopathology | Reproductive Pathology | Neuropathology

Session Chair
Rebeca Baergen
Weill Cornell Medicine, USA

Session Co-chair
Sunita Ahlwat
Fortis Memorial Research Institute, India

Session Introduction

Title: **Preeclampsia, systemic *Lupus erythematosus* and antiphospholipid antibody syndrome share a common pathogenic mechanism**
Rebecca Baergen, Weill Cornell Medicine, USA

Title: **Multimodal *in vivo* imaging strategies for early cancer diagnostics**
Tomasz S Tkaczyk, Rice University, USA

Title: **Clinicopatholgical spectrum of primary central nervous system lymphomas and association with Epstein-barr virus**
Sunita Ahlwat, Fortis Memorial Research Institute, India

Title: **Peering into the Iron window of Alzheimer's disease MR imaging and pathophysiology**
Jonathan J Wisco, Brigham Young University, USA

Title: **Pancreatic neuroendocrine neoplasms: Review of clinically relevant information**
Jeannelyn Estrella, University of Texas, USA

Title: **Mesenchymal epithelial transition marker and androgen receptor in estrogen receptor negative breast cancer**
Dalia M Abouelfadl, National Research Institute, Egypt

Title: **Single-cell molecular analysis reveals a novel molecular pathway in glioblastoma**
John Zhong, University of Southern California, USA

Rebecca N Baergen et al., J Clin Exp Pathol 2017, 7:4(Suppl)
DOI: 10.4172/2161-0681-C1-037

Preeclampsia, systemic *Lupus erythematosus* and anti-phospholipid antibody syndrome share a common pathogenic mechanism

Rebecca N Baergen, Cathleen E Matrai and **Jacob H Rand**
Weill Cornell Medicine, United States

Background: Preeclampsia (PEC), systemic *Lupus erythematosus* (SLE), and anti-phospholipid antibody syndrome (aPLA) are associated with adverse maternal and fetal outcomes but the pathogenic mechanisms have not been well studied.

Methodology: We investigated the expression of complement activation products and inflammatory biomarkers in these patient groups. We compared each group with control patients who had an unremarkable clinical history and no pathologic placental findings. Immunohistochemistry for C3b, C4d, annexin A5 (A5), and C5b-9 was performed; staining was graded on intensity (0, 1+, 2+, 3+) and distribution (absent, patchy, diffuse). 70% of PEC patients, 50% of SLE patients and 20% of aPLA patients showed at least weak, focal staining for C4d, while controls were negative. A5 staining showed focal loss in all disease groups, while controls did not. C3b staining showed more frequent strong staining in disease groups than controls. C5b-9 staining was localized to areas of fibrin deposition or infarction in all groups.

Conclusion & Significance: Previously, aPLA-associated pregnancy complications have been thought to be a consequence of a unique aPLA pathogenic mechanism. However, the similarity of the IHC findings in aPLA placentas to those from SLE and PE patients i.e. increased complement deposition and loss of A5 expression - suggests that aPLA-associated pregnancy complications may reflect a more general autoimmune mechanism, such as localized deposition of immune complexes and that this mechanism may be operating in other disease conditions associated with poor maternal and fetal outcome.

Biography

Rebecca N Baergen has expertise in Perinatal and Placental Pathology with a concentration on how placental pathology can explain adverse outcome, mechanisms of injury and diagnose underlying maternal and fetal disease. She has built her practice and consultation service after years of experience in clinical evaluation of placental specimens, research, and teaching of medical students, resident physicians and pathologists. She has also experience in many extramural courses of perinatal pathology hosted by many education organizations throughout the world.

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Notes:

Tomasz S Tkaczyk, J Clin Exp Pathol 2017, 7:4(Suppl)
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Multimodal *in vivo* imaging strategies for early cancer diagnostics

Tomasz S Tkaczyk
Rice University, USA

Monitoring and diagnostics of many cancers like oral, cervical or esophageal adenocarcinoma often require multimodal approach to perform successful diagnostics. Both morphological imaging and spectral assessment are important tools used in these applications. When, used separately, either method cannot easily achieve both high sensitivity and specificity *in vivo*. On the other hand, if combined and working in tandem, they can significantly improve the diagnostic performance. Therefore, this presentation focuses on analysis of multimodal approaches/instrumentation for early *in vivo* cancer detection. Two groups of devices will be discussed: Miniature-integrated imaging microscopes (endomicroscopes) to provide morphological content and multi and hyperspectral high speed systems to obtain bio-chemical signatures of the tissue. Practical aspects of multi-modal system integration, performance and parameters (field of view and resolution of individual sub-systems) will be discussed together with the design considerations to optimize its effectiveness. Number of imaging methods will be presented including (for morphological assessment): Contact imaging, confocal, structure illumination, and multi-photon imaging and (in area of spectral detection) narrow band imaging (NBI), image mapping spectrometry IMS, array snapshot systems in number of cancer applications (including for example oral, cervical, and esophageal adenocarcinoma).

Biography

Tomasz S Tkaczyk received his MS and PhD degrees at Institute of Micromechanics and Photonics, Warsaw University of Technology. Currently, he is an Associate Professor of Bioengineering and Electrical and Computer Engineering at Rice University. He joined Rice University in 2007 after his research at University of Arizona. His research interest includes "Microscopy, endoscopy/*in vivo* pathology, point of care systems, and spectroscopy". He has published 60+ per-reviewed communications. He is a fellow of OSA and SPIE, and recipient of number of professional awards including Paul F. Forman Engineering Excellence Award (OSA), Becton Dickinson Professional Achievement Award (AAMI).

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Sunita Ahlawat, J Clin Exp Pathol 2017, 7:4(Suppl)
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Clinicopatholgical spectrum of primary central nervous system lymphomas and association with Epstein-Barr virus

Sunita Ahlawat
Fortis Memorial Research Institute, India

In SRL-FMRI, during the last 4 years 4 months, a total of 1953 central nervous system tumours were reported, out of which 44 cases were suspected for primary central nervous system lymphoma (PCNSL), 39/44 could be confirmed on histopathology, five cases could not be confirmed due to steroid therapy given before the biopsy. We are presenting data on 39 cases which make approximately 2% of 1953 cases of CNS tumours. The clinical presentation, radiological features, immune status and status of international extra nodal lymphoma study group (IELSG) prognostic variables is assessed. Subtyping of lymphomas with the immunoprofile, BCL6 and BCL2 expression along with Epstein-Barr virus (EBV) status by immunohistochemistry and by FISH (EBER-1) will be presented along with clinical follow up and outcome.

Biography

Sunita Ahlawat has completed her MD in Pathology at All India Institute of Medical Sciences, New Delhi. She has published 50 papers in reputed national and international journal with three chapters in books. Her research interest lies in Oncopathology and specially Neuropathology. Currently, she is the Principal Consultant in Histopathology at Fortis Memorial Research Institute.

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Jonathan J Wisco, J Clin Exp Pathol 2017, 7:4(Suppl)
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Peering into the iron window of Alzheimer's disease MR imaging and pathophysiology

Jonathan J Wisco
Brigham Young University, USA

The severity of pathological protein deposition and concomitant iron presence distinguishes neurological disorders. Tissues with high amounts of protein or iron deposits have a characteristically rapid T2* MRI signal decay. Therefore, these tissue components do not appear on traditional MRI, as the NMR signal has already gone through multiple time constants of decay before any signal can be acquired. Ultra-short Echo Time (UTE) imaging, however, significantly reduces the time between the appearance of an NMR signal and its sampling, allowing for the measurement of iron-related pathology. We used a novel UTE sequence with a 3D cones k-space trajectory in a 3T Siemens scanner to image short T2* tissues in the amygdala and hippocampus in *ex vivo*, 20 mm thick coronal human brain slabs, each with known Alzheimer's disease (AD) Braak VI tauopathy or with cerebrovascular disease (CVD). We quantified the MR signal from tissues with T2* values of less than 1 ms at TEs of 0.25, 0.5, 0.8, 1.0, 2.0, 3.0, and 5.0 ms and TR of 12.1 ms (1 mm ISO, FA=15 degree, FOV=15 cm^2). Different images were then formed by subtracting the TE=5 ms images from the images acquired at the other TEs, effectively suppressing longer T2* tissues. T2* value in the AD amygdala and hippocampus as 4.8+/-1.9 ms (mean+/-SD), and T2* values in anatomically matching regions of the CVD brain was 2.2+/-1.1 ms. We analyzed tissue sections in these regions for the presence of Abeta-42, tau, and CD-68 immunohistochemical reactivity, and enhanced Perl's staining. We noted that the T2* signal decreased with the additive presence of amyloid plaques, tau tangles, non-heme iron, and activated microglia. UTE imaging may be a feasible method to visualize iron-related protein pathology. Future work will further examine the individual contributions of pathological proteins, non-heme iron, and inflammation to the T2* decay.

Biography

Jonathan J Wisco is an Associate Professor and Director of the Laboratory for Translational Anatomy of Degenerative Disease and Developmental Disorders, College of Life Sciences, Department of Physiology and Developmental Biology, and Neuroscience Center at Brigham Young University, Provo, UT. He is also an Associate Director of the BYU MRI Research Facility. He holds an Adjunct Associate Professor position in the Department of Neurobiology and Anatomy at University of Utah School of Medicine, USA.

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Jeannelyn Estrella, J Clin Exp Pathol 2017, 7:4(Suppl)
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Pancreatic neuroendocrine neoplasms: Review of clinically relevant information

Jeannelyn Estrella
University of Texas MD Anderson Cancer Center, USA

Pancreatic neuroendocrine neoplasms (PanNETs) are rare, representing approximately 3% of primary pancreatic neoplasms, although their incidence has risen sharply in the United States, increasing more than 100% over the past three decades. In the past, classification of PanNETs has been fraught with different nomenclature and multiple grading and staging systems. The 2010 WHO Classification of Tumours of the Digestive System and the 7th edition of AJCC Cancer Staging Manual have tried to address these issues, however, controversies still exist. This lecture will address the current grading and staging systems, issues encountered in everyday practice, clinical significance and future direction.

Biography

Jeannelyn Estrella has completed her MD at University of California, San Diego School of Medicine; Anatomic Pathology Residency at New York Presbyterian–Weill Cornell Medical College in New York and; Oncologic Pathology Fellowship and Gastrointestinal tract and Liver pathology Fellowship at MD Anderson in Houston, TX. She is an Associate Professor at MD Anderson in the GI and Liver section. She is the primary Investigator, Co-primary Investigator or Collaborator in six institutional or national research grants. She has published 43 papers in peer-reviewed journals.

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Dalia M Abouelfadl, J Clin Exp Pathol 2017, 7:4(Suppl)
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Mesenchymal epithelial transition marker and androgen receptor in estrogen receptor negative breast cancer

Dalia M Abouelfadl
National Research Institute, Egypt

Introduction: Breast cancers are heterogeneous in their morphology, clinical course and response to therapy. New therapeutic targets are needed in breast cancer. The Met tyrosine kinase receptor activates cell proliferation, survival, invasion and angiogenesis and has found a strong relationship between high HGF/Met signaling and tumor progression. The biologic roles of androgen receptors (AR) in the breast are incompletely understood since it is unclear whether the effects of androgens on breast cells are predominantly proliferative or anti-proliferative.

Aim: The aim of this study is to determine the prognostic value of mesenchymal–epithelial transition (MET) and AR expression in breast cancer patients with ER negative receptor.

Method: Histologic sections from 60 cases of ER negative breast cancer including different subtypes and grades of breast cancer were evaluated using immunohistochemistry with androgen and Met then evaluated compared to ER, PR, HER-2, using a standard avidin–biotin–peroxidase system.

Results: Out of the 60 breast cancers, 54 (90%) are positive for AR and 52 (86%) are positive for Met. There was a significant positive correlation between AR with tumor type, multicentricity and HER2 ($P<0.005$). Met scores were significantly increased in patients nodal stage, DCIS and HER2 ($P<0.005$).

Conclusions: There is a significant correlation between the Met and AR scores and the clinicopathological prognostic parameters. The levels of AR and Met expression were relatively high as most studies stated. The activation of Met signaling pathway plays an important role in tumorgenesis of breast cancers and the patients might benefit from drug therapy targeting Met in cases showing expression of such receptor.

Biography

Dalia M Abouelfadl has completed her MD at Cairo University and Postdoctoral studies at Westminster University School of Biomedical Sciences, London, UK. She is a member of Pathology department of Medical Division of National Research Center, a premier research organization. She has published more than 10 papers in reputed journals.

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Notes:

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Young Research Forum

Day 1

John Zhong, J Clin Exp Pathol 2017, 7:4(Suppl)
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Single-cell molecular analysis reveals a novel molecular pathway in glioblastoma

John Zhong
University of Southern California, USA

Molecular analysis has transformed pathology from the morphological age into the molecular era. This transition is similar to the transition from analog to digital TV. With molecular profiling, pathology is more precise and quantitative. However, tumor heterogeneity remains a major hurdle for obtaining the molecular profile of cancer. In this study, we apply single-cell technology to overcome this hurdle and obtain a molecular profile of a tumor stem cell from a glioblastoma multiforme (GBM) patient. We obtain the initial diagnostic biopsy from a male patient and a relapse biopsy from the same patient. We first enriched tumor stem cells by organ slide culture with the diagnosis biopsy, and then perform single-cell RNA-seq on the cultured cells (enriched for tumor stem cells). The relapse tumor is generated from the tumor stem cells which is rare in the initial (diagnosis) tumor, but becomes majority in relapse. Therefore, single-cells carrying mutations detected in the relapse biopsy but not in the diagnosis biopsy (too rare to be detected) are the tumor initiation cells (tumor stem cells). With this approach, we reveal a novel molecule pathway in the GBM involving multiple member of the P53 pathway.

Biography

John Zhong completed his BS degree in Molecular Biology at California State University, San Jose and pursuing his PhD at University of Southern California. His study is focused on Cancer Biology, specifically molecular foundation of carcinogenesis.

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Sponsored Workshop
Day 1

Frederick Husher et al., J Clin Exp Pathol 2017, 7:4(Suppl)
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Frederick Husher & Jee Shum

HS Technology LLC, USA

PRS – co-resident objective measure of IHC stain performance for process QC and diagnostic aid

The Process Record Slide (PRS) records the ImmunoHistoChemical (IHC) stain processing experience of a co-resident patient tissue section using arrays of stain reagent detection targets. Both experience all the IHC processing from tissue capture to the application of the cover slip: tissue capture, drying, deparaffination, antigen retrieval, primary antibody, and secondary amplification processing. Because the PRS targets are comprised of known reactivity concentrations to the stain reagents, an objective measure that is unique to that slide now exists remaining forever co-resident with the tissue section. The result is a captured efficacy record of the antigen recovery, stain reagents, and the processing technology. The PRS targets can be used with digital imaging to quantify the IHC processing upon the tissue section using the reference scales developed from the targets. The reference scales can be used for objective determination of antigen density in the tissue and QC reporting of the process. Additionally, utilizing the reference scales, the tissue section image presentation can be normalized to a preferred basis upon which optimal diagnostic determination can be achieved. Tele-diagnostics and second opinion are also possible since the unique processing experience is recorded.

Others have attempted to produce control slides but have all failed in meeting the constraints of mass production at an affordable price. Thus, only with the development of a new slide coating that meets the covalent binding needs of target & tissue, target printing technology, and production automation, can the goals be satisfied. PRS technologies satisfies these goals.

Biography

Frederick Husher and Jee Shum have pursed and refined the development of the PRS for more than a decade and they have successfully resolved many technology challenges including covalent adhesive slide coatings supporting both tissue and proteins, non-staining label paint, bio-target printing, and bio-target fabrication. A joint venture with the Hong Kong Productivity Council, to co-develop the production technology, will bring the PRS into commercial reality to benefit global health.

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Scientific Tracks & Abstracts

DAY 2

Sessions

Microbial Pathology | Breast Pathology | Dermatopathology | Veterinary pathology | Digital Pathology | | Plant pathology | Immunopathology | Histopathology | Speech & language pathology | Experimental Pathology

Session Chair
Peter E Stoemmer
Pathologie Augsburg Laboratory, Germany

Session Co-chair
Graciela Ghirardi
Córdoba Hospital, Córdob, Argentina

Session Introduction

Title: **Atypical immature metaplasia and importance of p16 and Ki-67 immunohistochemical expression in a city of South America**
Graciela Ghirardi, Córdoba Hospital, Argentina

Title: **Recapitulating malformations of cortical development via induced pluripotent stem cell technology**
Anita Huttner, Yale University School of Medicine, USA

Title: **An unusual case of Gynecomastia and Urothelial bladder cancer**
Peter E.Stoemmer, Pathologie Augsburg Laboratory, Germany

Title: **Primary undifferentiated high grade sarcoma of the breast: A clinicopathologic study of 19 cases**
Paul Hartel, Sligo University Hospital, Ireland

Title: **High expression of HIF1α is a predictor in patients with gastric adenocarcinoma**
Rana Ezzeddini, Tarbiat Modares University, Iran

Graciela Ghirardi, J Clin Exp Pathol 2017, 7:4(Suppl)
DOI: 10.4172/2161-0681-C1-037

Atypical immature metaplasia and importance of p16 and Ki-67 immunohistochemical expression in a city of South America

Graciela Ghirardi
Córdoba Hospital, Argentina

Introduction: The term Atypical Immature Metaplasia (AIM) was coined in 1983 to describe a squamous proliferation of the cervical transformation zone and glands associated with abnormal cytology and colposcopic findings. This condition may be a precursor of HPV integration. This subject is controversial because its biological and clinical significance are not well defined. Colposcopy suffers from the same diagnostic difficulties than cytology and pathology. The effect of gene inactivation in the cervical epithelium was investigated for the overexpression of p16 protein by Immunohistochemistry (IHC), which results in the loss of activation of Rb by the E7 protein of high-risk HPV.

Aim: Aim of this study is to demonstrate the use of biological markers, such as p16 and Ki-67, which can be useful when diagnosing lesions with AIM.

Materials & Methods: A descriptive study of the IHC expression of p16 and Ki-67 in 60 formalin-fixed paraffin-embedded cervical biopsies obtained from the private archive of a Pathology Laboratory was conducted.

Results: Negative cases for both p16 and Ki-67 represented 69% of HPV lesions without dysplasia, whereas high-grade lesions (CIN III) were 100% positive for both p16 and Ki-67. CIN I lesions were positive in 64% of the cases for both markers, and the rest were negative. CIN II lesions scored higher for p16 positivity, yielding positive results in 54% of the cases and 14% for Ki-67.

Conclusions: MIA is a complex entity can be associated with HSIL. The similarities between the MIA and LSIL could be considered as form of LSIL. p16 is a marker for HPV-induced dysplasia. We suggest cautious behavior for the sake of diagnostic accuracy. Considering the increased incidence of cervical carcinoma and its relationship to HPV, it is useful to use biological markers such as p16 and Ki-67, that may allow to determine the possible progression of SIL to invasive carcinoma as more economical tool that may be more in tune with the socio-economic reality of Latin America and cost-effective, when compared to other more expensive techniques.

Biography

Graciela Ghirardi has completed her medical studies at the age of 23, at the UNC. She was resident and chief resident pathological anatomy Hospital Córdoba and the Founder of pathological anatomy service in hospital city of Alta Gracia. She was the specialist in pathological anatomy and exfoliative cytology awarded by the CNPC. To 29 years. She has presented 51 times lecturer at national and international congresses. She is the author or co-author of 101 scientific papers.

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Notes:

Anita Huttner, J Clin Exp Pathol 2017, 7:4(Suppl)
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Recapitulating malformations of cortical development via induced pluripotent stem cell technology

Anita Huttner
Yale University School of Medicine, USA

Background: Progress in our understanding of somatic cell reprogramming, particularly the isolation and characterization of human induced pluripotent stem cells (iPSCs) opened new avenues for modeling human disease. iPSCs allow the generation of large numbers of genetically modifiable cells specific to the underlying human genetic background, and form an unparalleled opportunity to gain new insight into disease pathophysiology. This will further lay the foundation for the development of patient specific pharmacological assays and/or stem cell based therapies. We focused on Walker Warburg Syndrome (WWS), a rare and severe form of lissencephaly paired with congenital muscular dystrophy. Most children die before the age of three years. Several genes have been implicated in the etiology of this syndrome, however, to this date the pathogenesis is poorly understood. In addition, none of the animal models appears to faithfully reflect the human condition. Patient derived IPSCs, however, allow the targeted differentiation of cells into tissue specific phenotypes of brain and muscle, and thus, provide an assay for the recapitulation of disease specific pathophysiology.

Design: iPSCs lines were derived from skin biopsy specimens of patients with WWS and normal age matched controls. The generation of iPSCs followed established protocols using nucleofection (Amaxa system) of episomal plasmids expressing OCT3/4, SHp53, SOX2, KLF4, LIN28, and MYC. The cells were grown in culture and differentiated into all lineages of the human brain. Furthermore, since one of the hallmark features of lissencephaly is altered neuronal activity, this system forms a unique opportunity to monitor electrical activity of iPSC derived neurons.

Result: Directed differentiation of iPSCs into neuronal precursors was demonstrated *in vitro* with antibodies for CNS phenotypes, like GFAP, TUJ1, Tbr1/2. Furthermore, neuronal activity was monitored with ultrasensitive fluorescent protein calcium sensors (GCaMP6) and showed altered neuronal activity in neurons derived from patients versus normal controls.

Conclusion: This model allows the phenotypic recapitulation of complex neurogenetic traits, and provides insights into the pathophysiology of human forms of malformations of cortical development. The combination of technologies offers a unique opportunity to model human neurological disease and hold promise for the development of new treatment strategies.

Biography

Anita Huttner started her career as MD at University of Erlangen-Nurnberg, Germany in 1998. She worked as Clinical Fellow at Yale Medical School-Yale-New Haven Hospital & Harvard Medical School-Brigham and Women's Hospital and Children's Hospital. She has completed her Pre-/Post-doctoral fellow at National Institutes of Health. Currently, she is working as an Associate Professor of Pathology at Yale University School of Medicine.

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Peter E.Stoemmer et al., J Clin Exp Pathol 2017, 7:4(Suppl)
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An unusual case of Gynecomastia and Urothelial Bladder Cancer

Peter E Stoemmer, Anja Meyer and **Thomas Pusl**
Pathologie Augsburg Laboratory, Germany

A 29-year old patient was referred to the medical clinics of ZK Augsburg; he complained of bilateral rather indolent asymmetric enlargement of his breasts: the left mamma being larger. Few small nodal consistences in the left breast was palpated; no nipple discharges were found. Ultrasonics and mammography showed a gynecomastia without features of a malignant tumor.

Anamnestically, the patient practiced bodybuilding (and denied the use of androgenic steroidal anabolics); erectile functions were normal; undescended testes were corrected by surgery in childhood., the left testis was atrophic.

Hormonal studies showed testosteron in the high-normal range and his estradiol and HCG were elevated, while the gonadotropins were suppressed; normal fetoprotein.

Cranial MRI and Chest-CT-Scan were normal; the bladderwall in abdominal CT thickened.

Cystoscopy, performed due to painless macrohematuria showed a small unifocal papillary tumor in the bladderwall followed by transurethral resection.

Histology: Multiple particles of a soft, grey focal hemorrhagic tissue together 0.5g with up to 10 layers of atypical urothelia; some preserved umbrella cells.No invasion into the muscularis. IHC: ectopic expression of HCG.

Diagnosis: Papillary urothelial carcinoma of the bladder with no invasion into the lamina propria (pTa G1 cN0 cM0)

In the following weeks, HCG was no longer detectable, his sex hormones returned to normal, and gynecomastia completely regressed.

HCG-producing tumors of the bladder are known since 1904 (1), but these were ectopic choriocarcinomas. In our case, the tumorcells are typical urothelia with ectopic HCG-production; we assume that this is the cause of estrogen- induced proliferation of male mammary glands.

Biography

Peter Stoemmer has studied medicin at the university of Erlangen-Nuremberg, Germany and completed his MD, PhD and specialisation as general pathologist (including cytopathology and molecular pathology) at the age of 36 years) from Friedrich Alexander University Erlangen; after postdoctoral studies from Yale University School of Medicine in the laboratory of Juan Rosai and the supervision of A.B.

He is the director and partner of Pathologie Augsburg, an independent Laboratory for surgical Pathology. He is senior lecturer and professor at the institute of pathology at the Friedrich Alexander university and published more than 125 papers in journals

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Paul Hartel, J Clin Exp Pathol 2017, 7:4(Suppl)
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Primary undifferentiated high grade sarcoma of the breast: A clinicopathologic study of 19 cases

Paul Hartel
Sligo University Hospital, Ireland

Aim: We present 19 cases of primary undifferentiated high grade sarcoma of the breast (previously termed as pleomorphic malignant fibrous histiocytoma; MFH), the largest series to date, and compare our results with those in the literature to better define MFH in this anatomic location.

Methods & Results: 27 cases (MFH, myxofibrosarcoma, or pleomorphic sarcoma NOS) were reviewed using WHO and FNCLCC criteria. Inclusion required location within breast parenchyma without extensive chest wall involvement. Morphologic features were recorded and immunohistochemistry applied. Clinical data were extracted from patients' medical records. Clinically, there was one male patient. 5 of 15 (33% overall) patients with follow-up were died of disease within an average of seven months following diagnosis. Distant metastases and older patient age were associated with poor survival. Storiform-pleomorphic subtype was most common (10/19) with myxofibrosarcoma (6/19) and giant cell subtype (1/19) also observed. Unique lymphocyte-rich (1/19) and pleomorphic hyalinizing angiectatic tumor (PHAT)-like (1/19) morphologies are presented. Immunohistochemistry demonstrated expression of CD68 (71%), focal smooth muscle actin (36%), with rare focal ER and PR immunoreactivity. All cases were negative for CD34, S100 protein, desmin 33, and keratins, including CK7, CK20, CK5/6 and CK18.

Conclusion: MFH occurs as a primary lesion in breast parenchyma. Attention to morphologic detail and immunohistochemistry avoids misdiagnosis. Entrapped breast ductal epithelium should not be misinterpreted as the epithelial component of a biphasic tumor. A florid lymphoid response should not be confused with metaplastic carcinoma. PHAT-like features may be observed in MFH. Our study confirms the presence of MFH in breast and presents unique morphologic observations of primary breast MFH.

Biography

Paul Hartel is a Consultant Histopathologist at Sligo University Hospital, Ireland and holds faculty appointment at West Virginia University and National University of Ireland. He is trained in Pathology at West Virginia University and has fellowship in Pulmonary Pathology at Armed Forces Institute of Pathology, Washington DC. He is active in teaching and research and has many speaker invitations nationally/internationally. He is Diplomate of American Board of Pathology and Fellow at Royal College of Physicians in Ireland, College of American Pathologists and American Society of Clinical Pathology.

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Rana Ezzeddini et al., J Clin Exp Pathol 2017, 7:4(Suppl)
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High expression of HIF1α is a predictor in patients with gastric adenocarcinoma

Rana Ezzeddini*, **Mohammad Taghikhani***, **Mohammad Hossein Somi**** and **Amir Salek Farrokhi*****
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** Liver and Gastrointestinal Diseases Research Center, Tabriz University of Medical Sciences, Tabriz, Iran
*** Department of Immunology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

Background: Gastric adenocarcinoma has been known as one of the virulent diseases with weak prognosis. New findings of gastric cancers according to histologic features and molecular phenotypes improve early diagnosis, prevention and treatment. Hypoxia inducible factor 1α (HIF1α) are expressed in some human cancers and were previously suspected of promoting tumor growing and poor patient outcome. The objective of this study is to investigate the expression of HIF1α protein in adenocarcinoma tissues.

Materials & Methods: We selected 105 gastric cancer patients and 130 healthy control with the age range of 30-80 in order to carry out this study. The ethical committee of Tarbiat Modares University (Tehran, Iran) authorized this study. The study was explained to the participants and Informed consent was obtained from all individuals. Formalin-fixed, paraffin wax-embedded sections were cut at approximately 5 μm. Immunohistochemical staining for HIF1α were performed in all samples. Image J software was used for microscopic investigation and comparing the outcomes. We used t test for data analysis. P values less than 0.05 was considered as statistically significant difference in all cases.

Results: Our findings indicated significant upregulation of HIF1α expression in gastric adenocarcinoma tissues (0.25±0.07) compare to control group (0.18±0.04) (P = 0.0001).

Conclusion: As a result, the present study suggested that increased HIF1α were involved in progression of gastric adenocarcinoma cells that can be used for distinguished classification.

Biography

Rana Ezzeddini is a PhD student in Clinical Biochemistry at Tarbiat Modares University. She received her master degree in Clinical Biochemistry, as well. Her main research interest is clinical laboratory trials, with a focus on addressing biochemical questions for cancer and genetic deficienses.

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Notes:

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Video Presentation

DAY 2

Asma Shabbir et al., J Clin Exp Pathol 2017, 7:4(Suppl)
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Frequency of Her2/*neu* expression in colorectal adenocarcinoma: a study from developing South Asian country

Asma Shabbir, Talat Mirza, Abdullah Bin Khalid and **Muhammad Asif Qureshi**
Jinnah Sindh Medical University, Pakistan

Background: Human epidermal growth factor (Her-2/*neu*) has strong therapeutic implications in certain cancers like breast and gastric cancer. Literature on its frequency in colorectal cancer is scarce. In this study, we have investigated the frequency of Her-2/*neu* expression in colorectal adenocarcinomas and its association with various clinicopathological variables.

Methods: A total of 95 patients who underwent colonoscopic biopsy or colectomy were studied after institutional ethical approval. Hematoxylin & eosin (H&E) staining was performed on all the tissue sections. Expression of Her-2/*neu* was investigated by immunohistochemistry using α-Her-2 antibody. In order to quantify Her-2/*neu* expression, three criteria were applied that includes the pattern of staining, intensity of staining and percentage of tumor cells stained. Furthermore, its association was seen with various clinicopathological variables including age, gender, histopathological type, grade and stage of the tumor. Data was entered and analyzed using SPSS version 21. A p-value of <0.05 was considered as significant.

Results: From the total of 95 cases, 75 (78.9%) cases showed Her-2/*neu* expression. Pattern of Her-2/*neu* staining was significantly associated with the grade (p-value=0.030) and type of colorectal cancer (p-value=0.024). We also observed a significant association between percentage of cells stained and tumor type (p-value=0.006).

Conclusion: Her2/*neu* is considerably expressed in colorectal adenocarcinoma in Pakistani population. Our findings indicate a significant strong association of cytoplasmic Her-2/*neu* expression with low grades and membranous Her-2/*neu* expression with high grades of colorectal cancer.

Biography

Asma Shabbir has expertise in Diagnostic Pathology and also adores teaching the medical students. Her dissertation work involved evaluation of Her-2/*neu* in gastric and colorectal adenocarcinomas. The basis of which arose from the use of targeted therapy (α-Her-2) in breast cancer patients. Similarly, α-Her-2 therapy in gastric & colorectal cancer might give another treatment option for better prognosis to these patients in this new era of personalized medicine.

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