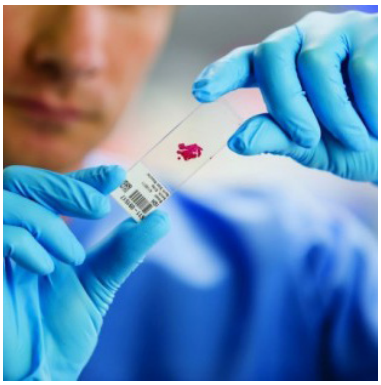
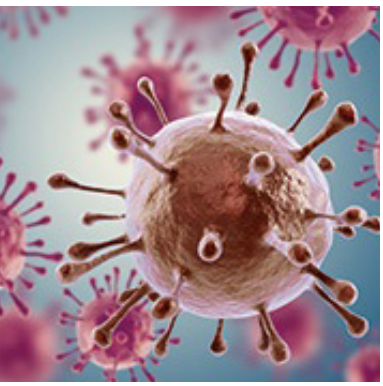
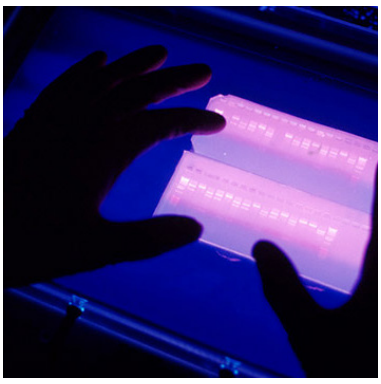
Keynote Forum
September 06, 2018

Pathology & Surgical Pathology 2018




International Conference on

Pathology and Surgical Pathology

September 06-07, 2018 | Edinburgh, Scotland

Hong Chang

University of Toronto, Canada

Role of epigenetics-microRNA axis in drug resistance of multiple myeloma

Despite administration of novel therapies, multiple myeloma (MM) remains incurable with resistance to drugs leading to relapse in most patients. Thus, it is critical to understand the mechanisms underlying the drug resistance of MM and develop more effective therapeutic strategies. Genetic abnormalities are well known to play a central role in MM pathogenesis and therapy resistance, however, epigenetic aberrations mainly affecting the patterns of DNA methylation / histone modifications of genes (especially tumor suppressors) and miRNAs have also been shown to be involved. Importantly, while epigenetic silencing of miRNAs in MM is well documented, some epigenetic markers are known to be direct targets of miRNAs particularly the recently described “epimiRNAs”. Drugs targeting epigenetic modifiers (e.g. HDACs, EZH2) can sensitize MM resistant cells to anti-myeloma drugs and reversibility of epigenetic changes makes these drugs promising therapeutic agents. Therefore, combination of miRNA mimics with inhibitors of epigenetic modifiers would be a more potent therapeutic strategy in MM patients in relapse or refractory to treatments. We will discuss the findings of recent investigations on epigenetics/miRNA regulatory axis in development of drug resistance in MM and highlight possible approaches for therapeutic applications of such interaction.

Speaker Biography

Hong Chang is a laboratory physician in Hematology and Oncology at Toronto General Hospital/ University Health Network and a Full Professor at the University of Toronto, Canada. His research has mainly dealt with the characterization of genetic events for initiation and progression of multiple myeloma (MM) as well as identification of prognostic factors and therapeutic targets in MM. Dr. Chang serves on the Editorial Board of several scientific journals and has published over 140 peer-reviewed scientific manuscripts. He has received many research and educational awards such as the TransAmerica Life Canada Award from Leukemia and Lymphoma Society of Canada (LLSC), the Excellence in Life Sciences Teaching Award, University of Toronto.

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Sujatha Siddappa

Institute of Nephro-Urology, India

Anemia and chronic renal failure on replacement therapy (dialysis) in a population of patients awaiting renal transplants from a tertiary care nonprofit making Institute Government of Karnataka, India

The burden of chronic renal failure on the patients with ongoing renal replacement therapy. This observation is dedicated to all the patients regardless of where they are who belong to, the deep end of poverty due to the disease per say in a gradual process every cycle means depletion of resources.

This is story of a group of 94 patients who enrolled for renal replacement therapy after being diagnosed as chronic renal failure. These patients have gone through various modalities of renal replacement therapy from haemodialysis to repeated graft failures to peritoneal dialysis. Their age varies from 9 to 70 odd years. These patients have a had haemoglobin on arrival as low as 4.5. These patients were then started on erythropoietin stimulating agents on weekly basis or fortnightly basis. The legacy of chronic anaemia and their mortality. The question is is low haemoglobin the only mortality indicator?

Over a period of 5 to 6 years we have seen that the mortality is 50% predominantly low haemoglobin, infection and the causal factor being non compliance due to the burden of economics on the patients. Lack of education has also been the second leading factor which has lead to block of fistulas loss of access for haemodialysis then opted for peritoneal dialysis. The other causes have been pulmonary oedema, palliative approach of the patient not wanting to burden the family of its resources 2 patients have succumbed to death after transplant 85% of these patents come from rural background.

We have also seen that patients with nuclear family and joint family and emotional support structure has not improved their overall smile curve.

Speaker Biography

Sujatha Siddappa has qualified in Pathology, pain and palliative care, human resource management, law regarding fundamental rights, waste management currently pursuing masters in hospital management. Over the last 2 decades and more of pathology practice she has gradually swerved towards renal pathology and GU pathology in the last 10 years. Her forte of interest includes clinical pathology, cytology histopathology, with focus on renal and GU pathology. She has had a good innings in her publication related to GU pathology which have reached out to highly engaged audience with Google scholar and research gate credits nearing 500 reads in the last couple of years and citations

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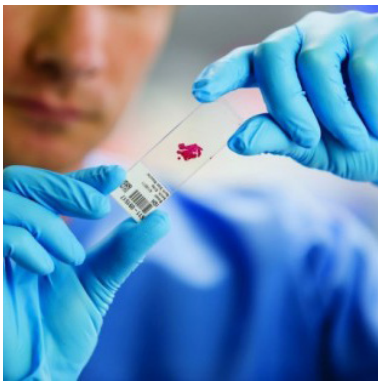
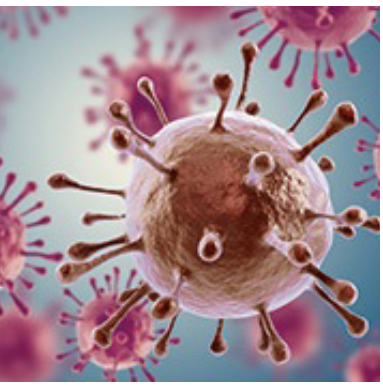
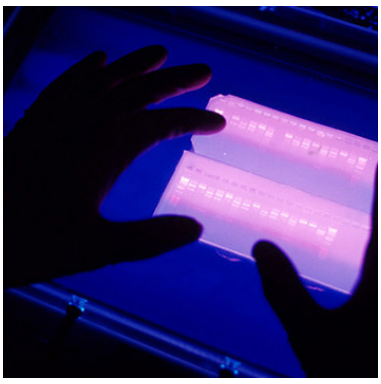
Keynote Forum
September 07, 2018

Pathology & Surgical Pathology 2018




International Conference on

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September 06-07, 2018 | Edinburgh, Scotland

Ahmed A S Elhakeem

Dalia A Elsers, Rabab M H and Elgaroryand Sana S Kroosh

Al-Azhar University, Egypt

Effect of hypoxic microenvironment on expression of stem cell marker (nestin) in astrocytic tumors

Introduction: Gliomas account for 40% of the primary central nervous system tumors in western countries, and for about one-third (37.3%) in Egypt. Identification of the cellular origin of gliomas presents an opportunity for improving the treatment strategies. It has been postulated that astrocytomas may be originated from neural stem cells. Hypoxia-inducible factor-1a (HIF-1a) is considered one of the key hypoxia regulatory factors. Hypoxia may be a critical component of a stem cell niche and contributes to the tumor initiation and maintenance of cancer stem cells (CSCs). In the present study, we hypothesized that the expression of stem cell marker (nestin) and hypoxia marker (HIF-1a) may be upregulated with increasing grades of astrocytomas. In addition, there is a correlation between hypoxia and stem cell marker in all grades of astrocytomas in both tumor cells (TRCs) and vascular endothelial cells (VECs). To explore our hypothesis, this study was organized into specific aims: (a) analysis of the immunohistochemical expression of nestin and HIF-1a in different grades of astrocytomas and (b) analysis of the correlation between nestin and HIF-1a in different grades of astrocytomas.

Materials and methods: Paraffin-embedded sections of 43 specimens of astrocytic tumors (nine pilocytic astrocytoma, 13 diffuse astrocytomas, seven anaplastic astrocytomas, and 14 glioblastoma multiforme) and six normal brain tissue (as a control) were stained with nestin and HIF-1a using standard immunohistochemical approaches. The immunoreactivity for nestin and HIF-1a in both TRCs and VECs was evaluated. Correlation between nestin and HIF-1a expression was also studied.

Results: The expression of nestin in TRCs was present in 88.4% of patients. As compared with normal brain tissue, there was statistically significant ($P < 0.01$) gradual increase in the mean of nestin immunoreactivity score with increasing grade of the studied astrocytomas (I–IV) (0.0 ± 0.0, 1.7 ± 1.8, 2.5 ± 1.6, 5.7 ±3.2, and 7.8± 2.5, respectively). The expression of HIF-1a was seen in 65.1% of studied patients. The immunoreactivity score of HIF-1a showed significant ($P < 0.001$) difference between low-grade astrocytomas (pilocytic astrocytoma and diffuse astrocytomas) and high-grade astrocytomas (anaplastic astrocytomas and glioblastoma multiforme). There was statistically significant positive correlation between expression of nestin and HIF-1a in both TRCs and VECs ($r = 0.71$ and 0.47, respectively, and $P < 0.001$ for both).

Conclusion: Restricted oxygen conditions increase the CSC fraction. Determining the cross-talk between hypoxia and CSCs will enhance the understanding of tumorigenesis and may provide new therapeutic strategy. Intense expression of nestin in high-grade astrocytomas may be helpful in their diagnosis especially in small biopsy.

Speaker Biography

Ahmed A S Elhakeem is working as a lecturer at the Department of Pathology of Assiut University in Egypt. His professional affiliation entails being a member of the International Society of Neuropathology, Egyptian society of Pathology and Egyptian society of progenitor cell research. He excels in the subspecialty of Neuropathology with over 10 years of experience in the diagnosis of brain and spinal lesions. His research interest also covers cancer stem cells.

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