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Posters

Hye Min Kim, J Clin Exp Pathol 2018, Volume 8
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Expression of cancer stem-like cell markers in papillary thyroid cancer: An immunohistochemical analysis

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Purpose: Cancer stem-like cell markers are reported be related to the prognosis of various cancers. The aim of this study was to investigate the clinical significance of stem-like cell markers in papillary thyroid carcinoma (PTC).

Methods: We constructed tissue microarrays with 386 PTC cases. The expression of cancer stem-like cell markers was estimated using immohistochemical (IHC) staining for CD24, CD15, CD166, CD44, and ALDH1A1. The scores of IHC staining was calculated by multiplying the proportion of stained cells and immunostaining intensity, and was defined positive when the final score was >10. Associations between the expression of cancer stem-like cell markers between the clinicopathologic parameters were evaluated. Disease progession was defined as those experiencing recurrence or distant metastasis.

Results: Among the patients included, a total of 59 patients experienced recurrence or distant metastasis during the follow-up. The proportion of CD15, CD166, CD44, and ALDH1A1 expression were higher in PTC patients with disease progression than without (p=0.014, <0.001, = 0.019, and <0.001, respectively). In multivariate Cox-proportional hazard analysis, CD15 positivity, CD166 positivity, and ALDH1A1 positivity were an independent factor for shorter progression free survival (odds ratio: 2.113, 7.413, and 2.574, 95% CI: 1.253-3.564, 4.296-12.791, and 1.014-6.360, p = 0.005, <0.001, and =0.041, respectively) along with the presence of lymph node metastasis.

Conclusion: Expression of cancer stem-like cell markers CD15, CD166, CD44, and ALDH1A1 in PTC was associated with shorter progression free survival. These findings suggest that cancer stem-like cell markers might provide useful information in predicting patient prognosis in PTC.

Biography

Hye Min Kim has completed her residency in the Department of Pathology in Severance Hospital, Seoul, South Korea in 2016, and achieved a PhD degree at the age of 30 in Yonsei University College of Medicine. From the year of 2016, she is in a fellowship program in the department of Pathology of Severance Hospital.

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Ruchi Sinha, J Clin Exp Pathol 2018, Volume 8
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Pediatric hyalinizing trabecular adenoma of thyroid: A rare presentation

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Hyalinising trabecular tumor (HTT) is an unusual and controversial neoplasm of the thyroid gland. The WHO classification of endocrine tumors describes it as a rare neoplasm of follicular cell origin with trabecular pattern of growth and marked intratrabecular hyalinization. It is mostly encountered in middle aged women. Pediatric cases are extremely rare. A 14 year male presented with swelling of the right lobe and isthmus of the thyroid. Partial thyroidectomy was performed. Grossly, an encapsulated well circumscribed nodule measuring 4 cms in diameter was seen in the right lobe. Microscopy showed features of hyalinizing trabecular adenoma (HTA). The histomorphological features of this entity overlap with papillary thyroid carcinoma, medullary thyroid carcinoma and paraganglioma to varying extent. Recognition of HTA in children can facilitate appropriate management.

Biography

Ruchi Sinha is currently working as Additional Professor in Department of Pathology & Laboratory Medicine, All India Institute of Medical Sciences, Patna. She has also worked at Kasturba Medical College, Mangalore she did her MBBS from SCB Medical College, Cuttack and MD from Patna Medical College Hospital, Patna she has Multiple publications and presentations at national and international platforms. Her area of Interest is Hematolymphoid

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Yu-Chun Lin, J Clin Exp Pathol 2018, Volume 8
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Cancer-associated fibroblast induced chemokine (C-C motif) ligand 11 contribute to the progression of head and neck cancer

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Head and neck squamous cell carcinoma (HNSCC) is one of the leading causes of cancer-related death in Taiwan and worldwide. The prognosis of HNSCC is usually poor because of its propensity of extensive invasion, local recurrence and frequent regional lymph node metastasis, even at initial diagnosis. Recent studies showed carcinoma-associated fibroblasts (CAFs), a major type of tumor-surrounding stromal cell, generate certain mediators through which CAFs interact with tumors and contribute to cancer progression in numerous cancers. In the present study, we used organotypic culture to investigate CAFs that promote aggressive behavior of cancer cells. Using microarray analysis, we detected abundant expression of chemokine (C-C motif) ligand 11(CCL11) in CAFs and identify CCL11as a critical mediator in CAFs-induced invasiveness. We validated that CCL11 played a major role in the crosstalk between fibroblasts and HNSCC cells via the paracrine manner. CCL11was found upregulated in CAFs than in normal fibroblasts via Western blot analysis. HNSCC cells treated with recombinant CCL11 increased capabilities of sphere formation, promoted migration and invasion abilities through induction of the epithelial-to-mesenchymal transdifferentiation with corresponding morphological alterations of cancer cells. Counteracting CCL11 activity diminished the aggressive phenotype of cancer cells induced by CAFs. We further studied the relationship between the expression of CCL11 in both CAFs and HNSCC cells and clinical outcome in the patients with HNSCC. These results indicate that CAFs promote cancer invasiveness via a paracrine effect on microenvironmental CCL11 signaling and suggest that CCL11 is a potential prognostic biomarker that could be considered in therapeutic strategies for the treatment of patients with HNSCC.

Biography

Yu-Chun Lin has completed his MD at the age of 25 years from National Defense Medical Center, Taipei, Taiwan. He received anatomic pathlogly training at Tri-service General Hospital from 2007-2010 and served as anatomic pathology physician at Pathology department of Tri-service General Hosptial since 2012.

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Accepted Abstracts

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A revolutionary software application for reagent-free clinical chemistry spectroscopic testing: From validation to application

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The traditional IVD clinical reagent spectroscopy diagnostic testing is an indespensable tool in the medical lab with the use of Uv-Vis spectrophotometers. However, this method requires stable uninterrupted power supply for storage and cold chain distribution of reagents due to their high enzyme base temperature sensitivity. The process is cumbersome and bulky with each test requiring its own reagent(s) and callibration standards. Also, compounded by the high cost of reagents - constituting about 50% of the medical lab operations cost. Leading to a widen access gap to clinical chemistry testing. In contrast, this revolutionary invented analytical spectroscopy testing model in software empolys the use of Uv-Vis-Nir or Vis-Nir spectrophotometers. Over 80% of clinical chemistry spectroscopic tests are undertaken without the use of reagents for whole blood, serum, plasma and urine test samples and with no alteration or drying of the sample as in multivariant analysis. It requires only three primary standards by the end user for calibration. Outputing singular or mulitple tests per unit test sample with reuseable cuvettes within a minute. Enzyme concentration testing reagents used by this method are non-enzyme based hence requires no strict refrigeration. This method is applicable for routine testing with high commercial accuracy averaging 40% lower than the traditional reagent base method for a wide range of tests on a single device providing highly marginable cost savings with minimal operations risks to medical diagnostic facilities worldwide in bridging the diagnosis to treatment gap.

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