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PS-06-011

BCL2 in follicular lymphomas (FL): the overrated guy?

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Background & objectives: The t(14;18)(q32;q21) is considered the genetic hallmark of FL. However, some authors have observed a high proportion of FL lacking t(14;18), supposing geographic differences.
Our aim was to test the incidence of BCL2- FL and investigate alternative genetic aberrations.
Methods: We collected a series of 76 consecutive FLs from our Pathology Department between 2013 and 2016. All lymphomas underwent histopathological revision and were immunohistochemically characterised. Interphasic fluorescent in situ hybridization (FISH) was performed targeting BCL2, IGH, BCL6 and MYC on paraffin embedded (PE) and fresh frozen (FF) specimens. Conventional cytogenetic was applied to a subset of cases as well.
Results: Overall, BCL2 rearrangements and protein expression were detected in 54% and 87% of cases, respectively, with statistical correlation between the two dramatically increasing with increasing intensity of immunostaining ($p<0.0001$). BCL2 expression was related to a lower proliferative index, as assessed by Ki-67 ($p=0.02$).
Among cases lacking t(14;18), 6 showed IGH rearrangement, and were further tested: 1 was characterized indeed by a variant BCL2 translocation, 1 had a IGH/BCL6 rearrangement, whereas the other 4 were negative for both BCL6 and MYC. FISH performed on FF specimens detected small BCL2-rearranged clones in three BCL2-negative PE cases. Finally, karyotype reconstruction documented 3q27 and 1p abnormalities in 3 cases, respectively.
Conclusion: Our study suggests that t(14;18) is not a constant finding in FL, its incidence being probably affected by geographical factors. Alternative genetic aberrations exist in negative cases, and conventional cytogenetic may still represent a useful tool to investigate their role in lymphomagenesis.

PS-06-012

Haematological indicators of Dengue illness and recovery: emphasis on white blood cells

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Background & objectives: In Dengue, as a norm platelet count guides the treatment and prognosis. This study assesses if WBC (white blood cell) count can be used as an equally sensitive parameter and it also analyses other haematological parameters in dengue.
Methods: This is a retrospective observational hospital-based study conducted over 6 months. 140 cases of dengue fever were included by complete enumeration method. Consecutive WBC count, Platelet count, WBC differentials and haematocrit were obtained from day of admission till discharge as part of treatment. Analysis was done using Spearman's rank correlation method and descriptive statistics to find for associations and patterns.
Results: Majority (67%) were males with mean age 30 years. On day of admission, 51% patients had leukopenia while 89% showed thrombocytopenia. By third day, leukopenia was seen in 33% patients while thrombocytopenia noted in 94%. On discharge, 12% patients showed leukopenia while 70% had thrombocytopenia. On day of admission, third day and day of discharge, mean WBC count obtained were 4568, 5547 and 6989 respectively and mean platelet count were 88217, 78479 and 131850 respectively. Mean WBC count and platelet count showed moderately positive correlation ($R=0.6, p<0.05$). Neutrophils showed decreasing trend while lymphocytes, monocytes, eosinophils and haematocrit showed an increasing trend post admission. Reactive lymphocytes were noted in conjunction with lymphocytosis.
Conclusion: In dengue patients, WBC count normalized with clinical improvement earlier than platelet count for majority making it an equally important parameter and a good indicator of recovery. The other studied haematological parameters also contributed in understanding the disease progress.

PS-06-013

The study of the toxic effect of the heavy metals salts on the erythropoiesis in the rats

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Background & objectives: Heavy metals salts (HMS) are the most common pollutants that are proved to have the negative effect.
The objective is to determine the morphological features of the marrow in rats, caused by the combined effect of the heavy metals salts.
Methods: The study was carried out on the laboratory male rats (n=24), which were divided into 2 groups (control and experimental – the rats received HMS (zinc, copper, iron, manganese, lead, chromium). The animals were taken out from the experiment on the 30th and 90th day.
Results: The HMS intake leads to the significant changes among the precursors of the erythropoiesis. The islet location of its predictors has been disturbed, they were found as the indistinct assembles of the cells and separately in the areas of myxomatosis and oedema. The size of the survived islets and the number of the cells in their structure gradually reduce, the single precursors of the erythropoiesis with the features of dyserythropoiesis: the signs of karyorhexis, irregular shape of the nuclei, internuclear bridges, are observed among them. The morphological changes in the marrow increase with the extension of the experiment and reach the maximum on the 90th day.
Conclusion: The excessive entry of the HMS to the animals' body leads to the qualitative (dyserytropoiesis) and quantitative (reduced number and size of the erythroid islets) changes in the erythropoietic tissue, which depend on the term.

PS-06-014

Multiparametric flowcytometry in the diagnosis of plasma cell disorders

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Background & objectives: Plasma cell disorders present a spectrum from benign to aggressive course. The diagnosis involves clinical, laboratory, and imaging data. Multiparametric flowcytometry (MFC) is used to determine clonality and aberrant immunophenotypes.
Evaluate the contribution of MFC to the diagnostic work-up.
Methods: All patients with plasma cell disorders (n=203) diagnosed between 2008 and 2014 and followed up for a median of 46 months. A comprehensive flow cytometry panel was applied to bone marrow aspirates, supplemented by biopsies with immunohistochemistry. Antigen aberrations and clonality differentiated between normal and abnormal cells. Expression patterns and quantitative characteristics were further correlated with clinical and lab tests.
Results: MFC-confirmed clonality and abnormal antigen expression supported diagnosis. Antigens were frequently co-expressed (CD20, 29%, and CD28 43%, $p<0,001$ CD200, 90% and CD27, 41%, $p=0,008$), or appeared mutually exclusive (CD20, 29% and CD56, 72%, $p=0.023$). Phenotypically abnormal plasma cells showed correlation with tumour volume - ISS stage ($p=0.002$), haemoglobin ($p=0.001$) and platelet counts ($p=0.01$) and, expectedly, morphological bone marrow infiltration ($p<0.001$). Moreover, myeloma patients with abnormal/total plasma cell ratio of <95% at diagnosis had significantly lower tumour volume and