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ADMINISTRATION OF G-CSF AND CHEMOTHERAPY IN PATIENTS WITH LYMPHOMA AND MYELOMA OPTIMIZED SUCCESSFUL MOBILIZATION OF HEMATOPOETIC PROGENITOR CELLS FOR AUTOLOGOUS BLOOD STEM CELL TRANSPLANTATION (SINGLE-CENTRE EXPERIENCE)

S. Genadieva Stavrik, L. Cevreska, Z. Stojanoski, A. Pivkova, S. Krstevska-Balkanov, O. Karanfilski, B. Georgievski

University Clinical Center Skopje, SKOPJE, Macedonia

Introduction. Hematopoetic stem cell mobilization and collection have been optimized in numerous clinical trials, but significant proportion of patients mobilize an insufficient number of hematopoetic stem cell, resulting in an inadequate graft. Classical strategies for peripheral blood stem cell mobilization include administration of growth factors, mainly G-CSF alone or in combination with marrow suppressive chemotherapy. The administration of a combination of chemotherapy and cytokines G-CSF is associated with a significantly increased efficacy of stem cell mobilization compared with either modality alone. *Method*. The aim of this study was to evaluate the efficacy of G-CSF preceded by chemotherapy (cyclophosphamide 4g/m sq for 1 dose) for hematopoetic progenitor cell mobilization for lymphoma and myeloma patients. We started G-CSF as a fixed dose 480MU SQ every day as soon as the leukocyte counts began to rise after chemotherapy induced myelosupression. Leukapheresis was commenced at the time when leukocyte count rose up to 1000/uL, and repeated for 2-4 consecutive days until target number of $CD34^+$ cell, at least 2×10^6/kg was collected. *Results.* 39 (male to female, 21:18, age range 21-65, lymphoma 25, myeloma 14) underwent a total of 86 courses of leukapheresis for hematopoetic progenitor cell collection prior to autologous transplantation from April 2002 through October 2006. The target amount of marrow was harvest in all patients. All the patients achieved good engraftment after autologous transplantation. The mean days required for WBC count to be over 1,000/uL was 8-16 days. Patient's age, sex, underlying malignancy, exposure to chemotherapy before mobilization did not show any statistically significant correlation. *Conclusion*. We can conclude that chemotherapy followed by G-CSF administration is an effective way for mobilization of hematopoetic progenitor cell and verified itself as a good mobilization method.

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WITHDRAWN

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PREDICTION OF THE OUTCOME OF THE TREATMENT IN THE ACUTE MYELOID LEUKEMIA PATIENTS ON THE BASIS OF THE THYMIDINE KINASE LEVEL IN BLOOD SERUM AND LIQUOR

N. Tretyak,[1] N.V. Goryainova,[1] O.A. Kyselova,[1] O.V. Myronova[2]

[1]Hematology and Transfusiology of UAMS, KYIV, Ukraine; [2]National Medical University, KYIV, Ukraine

Background. The thymidine kinase (TK) is a enzyme that convert deoxythymidine (Thd) to thymidine monophosphate (TMP). This phosphorylation is the only pathway to introduse Thd into DNA metabolism. TK is an essential enzyme which is expressed in cell division activity. An increased level of cell division is linked to malignant tumor diseases, such as leukemia and lymphomas. *Aims*. The purpose of the current investigation is determination the prognostic value of TK activity in blood serum and CSF in acute myeloid leukemia (AML) patients. *Methods*. In our study the activity of TK was measured in blood serum and liquor by radioimmunoassay using 5-125 I-iodedeoxy uridine as a substrate. TK levels were observed in 79 AML patients in the time of pretreatment and after finishing of induction chemotherapy. All patients were treated by standard chemotherapy ('7+3'). In three patients who developed CNS-relapse, TK level was measured in liquor in the time of intrathecal therapy (methotrecsate, cytoranisbe, dexamethasone). The patients were grouped as follows: 1) those, who achieved positive treatment result (complete remission) after the first course of induction chemotherapy - 19 patients (24%); 2) patients with positive results after 2 chemotherapy courses-28 (35.5%); 3) patients, who were resistant to the treatment-19 (24%); 4) patients, who died in 6 weeks period after diagnosis (the early death)-13 (16,5%). *Results*. In the time of pre-treatment the average TK levels were observed the next way: in the first group-7,1±1,672 U/L, in the second-13,89±1,679 U/L, in the third-34,33±5,287 U/L and in the fourth-53,95±8,46 U/L. After finishing of induction chemotherapy TK level significantly decreased up to the normal range (0-6 U/L) in the patients who achieved positive treatment results (to the 4,08±0,498 U/L in the first group and to the 4,78±0,71 U/L in the second), but remained increased in the patients, who were resistant (20,82±2,95 U/L) and with the early death (52,45±8,77 U/L). The TK level in the liquor was increased during all treatment period (from 28,6 U/L to 36,6 U/L). All patients died due to neurological complication or subsequent bone marrow relapse. In conclusion, TK level is independence prognosis factor in chemotherapy results in AML patients. The lower TK level in blood serum at the time of pretreatment can predict the better outcome.

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MEDIASTINAL GRANULOCYTIC SARCOMA (CHLOROMA) INVOLVING THE SUPERIOR VENA CAVA. CASE REPORT OF A PATIENT WITH DIAGNOSTIC DIFFICULTIES AND COMPLETE REMISSION AFTER CHEMOTHERAPY AND ADJUVANT RADIOTHERAPY DOCUMENTED WITH PET-SCAN

Ch.N. Christopoulos, E. Mantziou, V. Vassiliou, M. Martinou, M. Puglisi, P. Matsouka, A. Spiridonidis, D.M. Kardamakis

University Hospital of Patras, PATRAS, Greece

Authors: Ch.N.Christopoulos,[1] E.Mantziou,[2] V.Vassiliou,[1] M. Martinou,[1] M.Puglisi,[1] P.Matsouka,[3] A.Spiridonidis,[3] D.M.Kardamakis[1].

[1]Department of Radiation Oncology, [2]Department of Radiology, [3]Department of Hematology, University of Patras, Medical School, Patras, GREECE

Backgraound. Granulocytic sarcoma or chloroma is a rare extramedullary mass consisting of immature myeloblasts. This disease usually arises during the course of acute myelogenous leukemia, although it also occurs in chronic myelogenous leukemia and other myeloproliferative disorders *Aims*. To report a case of a patient affected of a rare mediastinal hematological malignancy known as granulocytic sarcoma or chloroma and in that opportunity to review the literature. *Methods*. A 40 years old man was referred to our Department affected of mediastinal chloroma firstly diagnosed approximately a year before. The patient initially presented a mass on the right cervical region and 3 months later in the left cervical region, initially considered of inflammatory origin and faced with antibiotics and consequent diminution of the masses. Because of new enlargement of the masses, the patient underwent thorax and cervical CT which revealed cervical lymph nodes with central necrosis and a compact mass in the mediastinum which invaded the superior vena cava and almost complete obstruction. A mediastinoscopy was performed and the histological specimen confirmed a mediastinal chloroma. A PET-CT scan confirmed active disease in the left cervical region, in the upper mediastinum and in the right submandibular region. *Results*. The patient received chemotherapy and partial response was confirmed by a thorax CT scan which referred a diminution of the mass (diameter: 5.5cm) and finally was referred to our Department with the purpose to receive adjuvant radiotherapy. The patient received adjuvant radiotherapy of the mediastinum (41.4 Gy in 23 fractions using a 6 MV Electa Linear accelerator). Complete remission of the disease was documented with a PET scan. The use of PET scan was of extreme usefulness because revealed no active cells, although the mediastinal mass was still present on thorax CT after the completion of radiotherapy. *Conclusions*. The mediastinum is rarely involved by granulocytic sarcoma and superior vena cava obstruction is an even rarer presentation (3 cases out of 11 patients with prominent mediastinal chloroma in the litterature) Treating superior vena cava syndrome regardless the underlying pathology is criticized. Complete remission of the disease documented with PET scan can be achieved with radiotherapy. PET scan is of extreme importance, by adding important information regarding active cells metabolism and helping phycisians on taking further therapeutic decisions.

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REAL-TIME PCR INCREASES THE DETECTION RATE OF THE JAK2 V617F MUTATION IN CHRONIC MYELOPROLIFERATIVE DISEASES

O. Zach,[1] M. Foedermayr,[1] B. Kessler,[1] H. Hauser,[1] O. Krieger,[1] H. Kasparu,[1] M. Girschikofsky,[1] J. Preining,[2] D. Lutz[1]

[1]Elisabethinen Hospital, LINZ, Austria; [2]AKH, LINZ, Austria

Background. The diagnosis of bcr-abl negative chronic myeloproliferative diseases (CMPDs) is based on clinical and biological criteria. However, a single acquired mutation of the Janus kinase 2 (JAK2 V617F) has been described in the majority of patients with CMPD, hence sensitive detection methods are needed. *Aims*. Two different PCR methods for the