Research (number: 1)

The role of endoscopic gastric biopsy in assessment of patients with unexplained iron deficiency anemia

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Abstract:

Background: Anemia is a worldwide problem and iron deficiency is the most prevalent cause especially in developing countries. There is an increased importance of gastrointestinal tract (GIT) as a cause for Iron Deficiency Anemia (IDA) resulting from iron malabsorption due to gastric mucosal changes or iron loss via bleeding gastrointestinal tract lesions. Nowadays, there has been an increased attention towards gastric mucosa in iron malabsorption and IDA through atrophic gastritis and *Helicobacter pylori* related gastritis.

Objective: The aim of the present study is to evaluate the diagnostic value of gastric biopsy in patients with IDA.

Patients & Methods: twenty patients with IDA were included in our study, they were subdivided into two groups; ***Group I:*** 13 patients newly diagnosed as IDA with no obvious cause. ***Group II*****:** 7 patients with probable cause for IDA refractory to oral iron supplementation therapy. ***Group III:*** ten patients without anemia, matching for age and sex as control group and have had upper GI endoscopy for any cause rather than anemia. All patients included in the study were subjected to full history taking, complete clinical assessment,laboratory investigations (complete blood count, complete iron study and occult blood in stool), abdominal and pelvic ultrasound and upper GI endoscopy with multiple fundal and antral gastric biopsies for histopathological evaluation of the biopsies as regard grading, topography and staging of gastritis,then detection of *H.pylori* infection by Giemsa and immunoperoxidase stain.

Results: There was significant difference between group I and control group as regard hemoglobin level, serum iron, transferrin saturation and serum ferritin. Also, there was significant difference between group II and control
group as regard the same parameters. While, in comparing group I and group II there was only significant difference as regard hemoglobin level. There was significant increase in percentage of *H.pylori* infection in anemic group than the control group with percentage ratio of (95.00%) versus (60.00%) respectively. Moreover, infection
by *H.pylori* in anemic group was mainly in both corpus and antrum (65.00%) in comparison to the control group that had infection mainly in antrum (40.00%). There was no recorded cases in corpus alone in neither patient nor control group. There was an increased (but not significant) percentage of infection by *H.pylori* in group I than group II with percentage ratio of (100.00%) versus (85.72%) respectively. Also, as regard topography of infection there was insignificant difference between the two groups (*P*-value=0.520%). There was inverse relation between Hb level and grade of gastritis, and there was significant decrease of Hb level in cases of combined atrophy in both corpus and antrum (*P*-value<0.028*), the same was for *H.pylori* infection (*P*-value<0.001*). There was significant decrease in serum ferritin level in patients with grade IV gastritis (*P*-value= 0.033*).

Conclusion: IDA was highly associated with severe grades of gastritis, atrophy of gastric mucosa and intestinal metaplasia that may be a cause for anemia even in patients with other probable cause. Also, *H.pylori* infection had been noticed to be more prevalent in patients with IDA than control.

Research (number: 2)

Lack of CD45 and CD56 expression implies bad prognosis in multiple myeloma patients

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Abstract:

Background: contradictory results have been shown concerning the significance of negative CD45 and CD56 expression on prognosis in multiple myeloma (MM) patients. Discrepancy of results has been at times claimed to be due to the possible impact of used high dose chemotherapy on disease progress. In this study, we have

analyzed the significance of negative CD45 or CD56 expression on response to treatment and survival in non transplant-eligible MM patients not exposed to high dose chemotherapy

Methods: Fifty six newly diagnosed, symptomatic non transplant eligible MM patients were enrolled in this observational cohort prospective study. All patients treated with vincristine, adryamicin and dexamethasone (VAD) regimen as a conventional chemotherapy. Myeloma work-up included bone marrow examination, skeletal survey, serum β2-microglobulin level, serum protein electrophoresis (SPE),serum immunofixation, CBC, serum albumin, calcium,C reactive protein, creatinine and

LDH. Staging was performed according to the international staging system (ISS), bone marrow cellularity, percentage of plasma cells and percent of CD45,CD 56 on bone marrow cells by flowcytometry.

Results: Significantly less complete remission (CR) and more partial remission (PR) and stable disease (SD) in CD45-ve compared to CD45+ve patients (*P*=0.001) whereas patients with CD56-ve expression showed less CR, more PR and equal SD compared to CD56+ve (*P* =0.002). The median overall survival (OS) and event free survival (EFS) for all patients were 23 and 21 months. The median OS and EFS were significantly less in patients with CD45-ve compared to CD45+ve (18 vs 23 *P*=0.029) and in CD56-ve compared to CD56 +ve (11 vs 23 *P*=0.000).

Conclusion: Absence of CD56 and/or CD45 expression on bone marrow plasma cells in non transplant eligible MM patients treated with VAD is associated with inferior prognosis.

Research (number: 3)

HLA-G expression as a prognostic indicator in B-cell chronic lymphocytic leukemia

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Abstract

BACKGROUND: The expression of human leukocyte antigen (HLA)-G was studied in certain malignancies and its role in escaping from immunosurveillance in cancers was proposed since HLA-G is a non-conventional HLA class I molecule that protects the fetus from immunorecognition during pregnancy. Some particles involved in the regulation of an immune system might represent prognostic value for

B-cell chronic lymphocytic leukemia (B-CLL). The identification of novel prognostic factors in B-CLL may help define patient subgroups that may benefit from early therapeutic intervention.

OBJECTIVE: To evaluate the prognostic significance of HLA-G expression in B-CLL patients and its relationship with other well-established prognostic markers.

METHODOLOGY: Thirty B-CLL patients diagnosed by clinical, morphological and immunophenotyping criteria were studied for HLA-G expression by flow cytometry. The relationship between HLA-G expression and some known prognostic markers was evaluated.

RESULTS: HLA-G was expressed in 36.7% of CLL patients at diagnosis, with a mean expression level of 35.31 ± 12.35%. A significant association between HLA-G expression and common prognostic markers of progressive disease was detected. The group of patients with positive HLA-G expression showed significantly higher absolute lymphocyte counts and serum levels of LDH and β2-microglobulin, lower platelet counts, positive CD38 expression and advanced stages of Binet clinical staging.

CONCLUSION: The present study demonstrated that HLA-G expression correlates with prognostic markers of a poor B-CLL outcome, mainly Binet clinical staging and CD38 expression by B-CLL cells, which indicates that this parameter may play a role as an important prognosticator of disease progression and consequently targeted therapy in B-CLL.

Research (number: 4)

Prognostic utility of CD184 in acute myeloid leukemia

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Background Chemokine induce directional migration of cells toward a gradient of chemotactic cytokines (chemotaxsis). CD184 is a chemokine receptor which regulates the localization of leukemic cells, and most leukemic cells respond to it, with increased adhesion, survival and proliferation.

Aim The work was conducted to evaluate the role of CD184 in newly diagnosed patients with acute myeloid leukemia.

Subject and method Eighty patients presented with de novo AML. Based upon the distribution of CD184 expression in our patients' population, we defined groups with low CD184 expression as group I (MFIR 4 to 8), intermediate CD184 expression as group II (MFIR 9 to 20), and high CD184 expression as group III (MFIR more than 21). Patients with acute myeloid leukemia were studied at first diagnosis and were previously untreated. After diagnosis, patients received chemotherapy and they were

followed up for periods ranged of 24 months with special attention to clinical and laboratory markers of remission and relapse, taking care to estimate the date of first complete remission, date of relapse, death or last seen alive.

Results patients were divided according to CD184 expression (MFIR) into 3 groups; group (I) with low expression (MFIRs ≤9) had a mean of 5.04 ± 1.48, group (II) with intermediate expression (MFIRs between 9 to 20) had a mean of 10.03 ± 0.45, and group (III) with high expression (MFIRs ≥20) had a mean of 30.25 ± 6.17. In the present study, we found no relation between CD184 expression levels in AML patients and the age of patients. Also, no significant relation was found between CD184 expression levels and the presence or absence of hepatosplenomegally and lymphadenopathy ($P > 0.05$). As regards to haematological data and MFIR of CD184 expression in AML patients, the mean leukocytic count was significantly lower in group (I) than in group (II) and group (III), and leucocytic count was significantly related to CD184 expression in the three groups. Also, the percentage of blasts in peripheral blood and bone marrow was significantly related to CD184 expression with P value < 0.05 while no significant relation was found with haemoglobin or platelets

($P > 0.05$). As regards to prognosis and MFIR of CD184 expression, group (I) showed 70% remission, 20% relapse and 10% death, while group (II) showed 33.33% remission and 66.67% relapse and group (III) showed 100% deaths meaning that high and intermediate CD184 expression were associated with low rates of remission and high frequency of relapse and death. We can conclude that CD184 expression can represent a useful prognostic tool for AML patients.

Research (number: 5)

Plasma Levels of CXCL 9, 10, 11 and 12 and Their Impact on Overall Survival in Chronic Lymphocytic Leukemia

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Abstract:

Background/Aims: The expression of chemokines is altered in chronic lymphocytic leukemia (CLL) due to inactivation of the tumor suppressor genes or constitutive activation of the oncogenes. The aim of this study was to measure plasma levels of chemokines CXCL9,10, 11 and 12 in CLL and relate that, if any, with abnormal immunophenotype considered with bad prognosis.

Methods: Plasma from 40 CLL patients and 20 healthy age and gender-matched controls were analyzed for CXCL 9, 10, 11 and 12 by enzyme-linked immunosorbent assay.

Results: CXCL11 and 12 plasma concentrations were significantly higher in CLL patients compared to controls (P=0.013 and 0.0015) respectively. CLL patients with higher CXCL11 or 12 levels (median >128.4, 1006.65 pg/mL respectively) before

treatment had worse prognosis for overall survival (OS) (P = 0.0342, 0.0229).
Conclusion: High plasma levels of CXCL11 and 12, is associated with high grade CLL leukemia and may be useful as a predictive indicator for OS.

Research (number: 6)

Circulating endothelial cells and serum visfatin are indicators of cardiovascular disease risk in psoriasis patients

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Abstract

Background: Cardiovascular risk in psoriasis (PS) appears to be dependent on disease severity. Circulating endothelial cell (CEC) counts appear to be elevated in numerous conditions associated with endothelial dysfunction including chronic immune-mediated inflammatory disorders. Adipokines could serve as a missing link between PS and comorbidities
Aim: To evaluate the numbers of CECs and serum visfatin levels in PS patients in comparison to controls to investigate their possible role in increased cardiovascular disease (CVD) risk.
Methods: Twenty-five PS patients and 15 healthy individuals were recruited. CECs numbers were detected in peripheral blood samples through studying CD146 and CD45 expression by flow cytometry. Serum visfatin levels were detected by enzyme-linked immunosorbent assay.
Results: There was a statistically significant increase in CEC numbers and serum visfatin levels in PS patients compared to controls ($p < 0.001$) with significant positive

correlations between serum visfatin levels and PS severity and numbers of CECs in PS patients. Also, there was a significant difference in numbers of CECs (p _ 0.001) and serum visfatin levels (p _ 0.001) between CVD risk positive and CVD
risk negative psoriasis patients.
Conclusion: Both numbers of CECs and serum visfatin levels were increased in PS patients compared with controls and also increased in CVD risk positive when compared with CVD risk negative PS patients. Both correlated with disease severity suggesting the possibility of increased CVD risk in PS patients.

Research (number: 7)

THE RISK OF HBV AND HIV TRANSMISSION IN LONG-HAUL TRUCK DRIVERS IN EGYPT

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ABSTRACT
Introduction
In many countries Long-haul truck drivers and their commercial sex contacts (CCs) have been associated with the spread of blood born and sexually transmitted infections (STI). However, there is no sufficient information about the Blood born and STI risk behaviors of these populations in Egypt. We conducted this study to explore blood born and STI-related risk behaviors among the drivers in Tanta and Kafr El-Sheikh governorates, Egypt and to study their knowledge about HIV & STI transmission.
Methods
Between march and october 2014, we conducted face-to-face unstructured and semistructured qualitative interviews at trucking venues, health department facilities, and a community-based organization to solicit information on sexual behavior and condom and illicit drug use especially intravenous drugs. The interviews were audiotaped, transcribed, reviewed for quality control, and then coded and analyzed.
Results
Fifty long-haul truck drivers completed the interview. The truck drivers were male with a mean age of 40 years. Data suggested risky sexual behavior and drug use (i.e.,

inconsistent condom use, illicit drug use including intravenous drug use, and the exchange of sex for drugs) that could facilitate STI/human immunodeficiency virus (HIV) and hepatitis virus transmission. Results also showed a low knowledge about STIs and lack of access to general health care for both populations. Fortunately, we found that all the drivers were seronegative for hepatitis B virus and human immunodeficiency virus.

Conclusions

Additional studies are needed to further assess risk of development and prevention of blood born and sexually transmitted diseases in long-haul truck drivers.

Research (number: 8)

Are peripheral natural killer cells and Interleukin-21 interrelated in psoriasis pathogenesis?

Doaa Salah Hegab, Lamia Hamouda Elgarhy, Mohammed Attia

Abstract

Background: Interleukin (IL)-21 is a pleiotropic cytokine triggering inflammatory signals that contribute to the psoriasis-associated epidermal hyperplasia. Natural iller (NK) cells are innate immune effectors with an emerging role in psoriasis pathogenesis.

Objective: The present work aimed to investigate changes in serum IL-21 and peripheral NK cell subsets in psoriasis patients in comparison to healthy subjects, and to relate them to disease severity.

Methods: Thirty untreated psoriasis patients and 20 matched healthy controls were included. Serum IL-21 was assessed by ELISA, peripheral NK cell subsets by immunophenotyping and evaluation of CD3, jCD56 and CD16 using flow cytometry.

Results: Mean serum IL-21 levels were significantly higher in psoriasis patients than controls ($P<0.05$), and linearly correlated with PASI ($r=0.793$, $P=0.001$). There were significantly fewer meanpercentages of NK cell subsets; CD3-CD56^{+dim}CD16+, CD3-CD56$^{+bright}$, and CD3-CD56^{+dim} (all $P<0.05$), but not CD3-CD56$^{+bright}$CD16+ in psoriasis compared with controls. The peripheral percentages of CD3-CD56$^{+bright}$CD16+, CD3-CD56$^{+bright}$,and CD3-CD56^{+dim} cells correlated significantly positive with disease duration ($P=0.027$, 0.045, 0.001 respectively), and only CD3-CD56$^{+bright}$CD16+ cells correlated negatively with PASI ($P=0.048$). None of the changes in percentage of peripheral NK cell subsets correlated with serum IL-21 level.

Conclusion: IL-21 and circulating NK cells are 2 important players in the complex web of

psoriasis pathogenesis with multifactorial cross-talks which are still mostly obscure. Our study may provide insight into the application of serum IL-21 and peripheral percentage of CD3-CD56+$_{bright}$CD16+ NK subset as novel predictors of psoriasis prognosis. Moreover, Targeting IL-21 and propagation of NK cells might offer potential immunotherapeutic hopes for psoriasis.