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Hepcidin level changes in type 2 diabetes

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Objective: Background: Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion or insulin action, or both. Diabetes and its complications have become a major public health problem in the world and its prevention has become a public health priority. Hepcidin, a 25-amino-acid antimicrobial peptide, is the central regulator of iron homeostasis. Under normal circumstances, hepcidin expression and subsequent release into plasma prevents further absorption of iron from the duodenal enterocytes by preventing the efflux of iron by ferroportin channels, hence reduced amounts of iron delivery via transferrin to hepatocytes. In response to iron loading, hepcidin expression increased to prevent the further uptake of iron. Conversely, during iron deficiency, hepcidin expression decreased. Aim of the Study: Was to assess the possible changes of serum hepcidin that may occur in patients with type 2 diabetes. Objectives: Was to evaluate changes of serum hepcidin level in type 2 diabetes, assess possible relationships of serum hepcidin, iron status, hepcidin: Ferritin ratio and HOMA-IR in type 2 diabetes patients.

Methodology: This study consisted of randomized eighty subjects divided into four groups: Group 1: Included 20 patients with impaired glucose tolerance (pre-diabetes), Group 2: Included 20 patients with controlled diabetes, Group 3: 20 patients with uncontrolled diabetes, Group 4: Included 20 healthy volunteers.

Results: : Hepcidin: Ferritin ratio was statistically high in impaired glucose tolerance and low in uncontrolled diabetes with (p -value $<0.001^*$) and normal in controlled diabetes and healthy volunteers. A significant negative correlation between hepcidin: ferritin ratio and HOMA-IR in impaired glucose tolerance with (p -value = 0.009^*) was found.

Conclusion: Serum hepcidin affected by multiple factors so cannot be used for screening of type 2 diabetes. But hepcidin: Ferritin ratio could be a novel marker for early screening of patients with type 2 diabetes.

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Chemotherapy delivering port-a-cath migration into the heart: a case report

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Objective: Chronically diseased patients who require long-term therapy through central venous access, a totally implanted central venous port systems are used. Such beneficial devices have life-threatening complications.

Case report: We report a 45-year-old Libyan female diagnosed with poorly differentiated gastric adenocarcinoma, underwent total gastrectomy with eso-jujunal anastomosis with port-a-cath placement to deliver chemotherapy. At the fourth cycle of chemotherapy, unfavourable event occurred; the catheter dislodged and migrated to the right cardiac chambers, which was successful removed by local anaesthesia with loop-snare technique via the right femoral vein.

Methodology: We report a 45-year-old Libyan female diagnosed with poorly differentiated gastric adenocarcinoma, underwent total gastrectomy with eso-jujunal anastomosis with port-a-cath placement to deliver chemotherapy. At the fourth cycle of chemotherapy, unfavourable event occurred; the catheter dislodged and migrated to the right cardiac chambers. The patient refused to reimplant Port-a-cath because of psychological trauma she has experienced, and to complement the chemotherapy cycles peripheral line was the option, which has health, social, and economical consequences.

Results: The port-a-cath was successful removed by local anaesthesia with loop-snare technique via the right femoral vein and the patient preference to complement the chemotherapy cycles through peripheral line after psychological trauma she experienced of the dislodgment and empolization of the port-a-cath.

Conclusion: Port-a-cath is beneficial devise has serious complications. To avoid dislodgment, displacement, and empolization developing of the port-a-cath is needed.

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Reactive lymphocytes in blood film of a covid-19 iraqi patient: a case report

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Objective: Coronavirus disease 2019 (COVID-19) is a novel highly infectious disease with variable laboratory parameters changes. The disease is highly contagious and any delay in the diagnosis leads to an increased possibility of its spread. This study explores the use of blood film as a cheap, rapid and feasible laboratory test in the disease diagnosis. In low medical resources countries, this can be a crucial diagnostic method.

Case report: A 51-year-old Iraqi male had investigations done by Istishari Medical – private – Laboratory. He was diagnosed with COVID-19, of a moderate severity. The CBC showed normal hemoglobin of 15.71 g/dL (packed cell volume, PCV of 49.4%), WCC of $7.4 \times 10^9/L$, neutrophils of $5.3 \times 10^9/L$ (71.7%), lymphocytes of 1.0×10^9 (14.1%), monocytes and platelets count $125 \times 10^9/L$. Serum ferritin of 664.0 $\mu g/L$ (NR: 30.0–400.0), CRP of 59.0 mg/L (NR: <5.0) and D-Dimer of 0.27 mg/ml (NR: up to 0.5). The biochemical changes for the liver and renal functions expressed mild changes. Stained peripheral blood smear showed presence of many characteristic large atypical lymphocytes, constituting about 43% of the all lymphocytes (14.5% of the WCC). The most common subtype seen in the patient's blood film displayed a distinctive abundant pale blue cytoplasm, sometimes confined to its irregular margins which