

P150. THE ASSOCIATION BETWEEN THIOL DISULPHIDE HOMEOSTASIS AND COBALAMIN

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Vitamin B12 (cobalamin) has a role in protein and DNA synthesis. Cobalamin deficiency causes many pathologies such as neuropathy and pancytopenia. Thiol groups plays important roles in many biologic processes including myeloproliferation, cell proliferation, formation of tertiary structure of protein, and anti-oxidation by formation functional or structural disulphide bonds. This study was aimed to investigate relationship between cobalamin levels and thiol-disulphides homeostasis.

Test results of 201 patients who applied at 02.2015-08.2015 have evaluated. It was investigated the relationship between cobalamin-homocysteine levels and thiol-disulphide homeostasis. The study was splitted into two groups as low cobalamin with high homocysteine levels (group 1) and normal cobalamin values with normal homocysteine values (group 2).

Negative significant correlation was found between homocysteine levels and native and total thiol levels ($r=-0.263$; $r=-0.252$; $p<0.001$, respectively). In group 1, native and total thiol levels was significantly lower than the group 2 ($p=0.011$, $p=0.009$, respectively). There was no significance between group 1 and 2 at disulphide levels, disulphide/native thiol and disulphide/total thiol ratios.

In group 1 there was no difference in disulphide side while serum native and total thiol levels was lower than group 2. Results were showed that cobalamin effects thiol side of the thiol disulphide homeostasis. It thought that decrease of thiol levels based on decreased protein synthesis in cobalamin deficiency, despite increased homocysteine levels in cobalamin deficiency. Decreased serum thiol level causes decreasing antioxidane capacity and it may be a point at the neurodegeneration in cobalamine deficiency. This results suggest that thiol sources replacement with cobalamine may be beneficial.

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