

## **Estimation of Ceruloplasmin activity, and copper, iron levels in sera of normal pregnant**

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### **Abstract**

This study was undertaken to shed light on the changes of levels of CP activity, Cu and Fe in sera of (53) normal non-smoker pregnant without complication, during three trimesters of pregnancy.

G1 include (18) pregnant in the 1<sup>st</sup> trimester, G2 (19) pregnant wear taken in the 2<sup>nd</sup> trimester and G3 (16) pregnant in the 3<sup>rd</sup> trimester. Another (18) serum samples were taken from healthy non-pregnant women age matched as control group G4.

Results showed a significant steady elevation in CP activity and serum Cu with advanced trimester of pregnancy compared to control. The iron concentrations in the sera of pregnant women showed a significant reduction compared to control group also a steady decrease in Fe levels with advanced trimester was found.

The increased activities in CP as endogenous antioxidant during advanced pregnancy could be a counter balance to the free radical generation due to the increase in Cu concentration with advance gestation.

### **Introduction**

Ceruloplasmine (CP) is an alpha<sub>2</sub>-glycoprotein with enzymatic activity. It is a single polypeptide chain of 1046 amino acids containing several carbohydrate side chains (1). In vertebrates, it carries more than 95% of the plasma copper content (2).

Ceruloplasmine is a multifunctional protein (3), its functions have been divided into five categories as follow; (1) transport of copper to tissue sites, (2) oxidase activity for aromatic amines, (3) ferroxidase activity, (4)