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CERULOPLASMIN SERUM CONCENTRATIONS IN A RANDOMIZED POPULATION SAMPLE OF 2,445 SUBJECTS

M. Gedack[1], C. Schönfeldt-Lecuona[2], W. Kratzer[1], J. Kassubek[3], B. Connemann[2]
[1]Internal Medicine I, [2]Psychiatry and Psychotherapy, [3]Neurology, University of Ulm, Ulm, Germany

The metalloprotein ceruloplasmin has been of interest to psychiatrists for decades following early observations of elevated serum copper, and oxidase activity, in patients with schizophrenia. While immunological methods did not confirm elevated serum ceruloplasmin concentrations in schizophrenia, low serum concentrations of ceruloplasmin are typical of Wilson's disease, Menkes' disease, and aceruloplasminemia making low ceruloplasmin an important marker of disease. Unfortunately, available normative values are of limited usefulness, the majority being derived from oxidase studies; very few immunoturbidimetric or nephelometric studies were performed on small samples, or did not account for known influencing factors. Therefore, the present study was planned to determine nephelometric ceruloplasmin serum concentrations in a large randomized population sample. 2,445 subjects between 12 and 65 years of age were randomly selected from a southern German town of 22,000 inhabitants. The mean ceruloplasmin serum concentration was 331±104 mg/l. Ceruloplasmin serum concentration significantly correlated with gender and age and was higher by 23 mg/l on average in women than in men. There also were significant correlations with lipoprotein concentrations, but not with several other liver-associated features, parameters of metabolism, or markers of inflammation.

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