

# **Relation between Abo blood grouping and metabolic syndrome.**

**Thesis**

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**BY**

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## Abstract

**Introduction:** Metabolic Syndrome (MS) is a common chronic metabolic diseases complex that affects several people worldwide. It is a cluster of metabolic abnormalities that includes abdominal obesity, hypertriglyceridemia, low levels of high-density lipoprotein cholesterol, hypertension and hyperglycemia. There are certain diseases which show strong association with ABO blood groups. The aim of this study was to investigate the association between ABO blood groups and metabolic syndrome.

**Patients and methods:** A total of 400 subjects were enrolled to this cross-sectional study in two groups; 200 patients (according to the NCEP ATP III criteria) as metabolic syndrome group and 200 subjects as control group. All samples were examined for ABO blood groups by monoclonal antibodies IgG and IgM. Frequency of ABO blood groups were determined in both groups. Waist circumference, systolic and diastolic blood pressure of all patients were recorded. Fasting glucose and serum lipid levels were measured. Software program was used for statistical analyses is Statistical Package of Social Science (SPSS) software version 18 in windows 7.

**Results:** our study demonstrated that there is no statistically significant difference with p-value  $>0.05$  between cases and controls as regards blood grouping. On the other hand, there is statistically significant difference with p-value  $<0.05$  between cases and controls as regards Rhesus factor, with high percentage of positive Rh factor were noted among cases. BMI is high in blood group O, low in blood group AB, high HDL level is shown in RH negative patients.

**In conclusion**, we can conclude that metabolic syndrome is not associated with ABO blood groups. Metabolic syndrome can be affected from different genetic factors other than ABO blood groups. The result of our study is supported by certain studies in literature.

**Key words:** metabolic syndrome-ABO blood group.