

## **Investigating the relationship between chronic kidney disease and HDL/LDL ratio in Ardabil population: case-control study**

### **Abstract**

**Background:** Chronic kidney disease is associated with many metabolic disorders, including dyslipidemia, but there is no complete agreement among studies on the exact lipid profile of these patients, and few studies have compared the ratio of HDL/LDL in these patients compared to the general population.

**Aim:** To evaluate the relationship between chronic kidney disease and HDL/LDL ratio in Ardabil population ; case-control study.

**Materials and methods:** In this case-control study, 33 patients with chronic kidney disease (case groupe) and 67 healthy individuals (control groupe) were included. Blood samples were taken from all participants and the level of serum HDL and LDL and HDL/LDL ratio were calculated and compared in these people.

**Results:** The mean age of the patient group was  $62.2 \pm 11.1$  years and the healthy group was  $61.9 \pm 10.8$  years ( $P=0.892$ ). In the patient group, 16 people (48.5%) were female and 17 people (51.5%) were male and in the healthy group 34 people (50.7%) were female and 33 people (49.3%) were male ( $P=0.832$ ). The mean level of HDL in the patient group was  $45.9 \pm 13.0$  mg/dL and in the healthy group was  $47.4 \pm 10.9$  mg/dL ( $P=0.222$ ). The mean LDL level in the patient group was  $98.1 \pm 34.3$  mg/dL and in the healthy group was  $120.3 \pm 34.5$  mg/dL ( $P=0.003$ ). The mean HDL/LDL ratio was  $0.50 \pm 0.15$  in the patient group and  $0.42 \pm 0.15$  in the healthy group ( $P=0.003$ ).

**Conclusion:** The results of the present study showed that compared to the general population, patients with chronic kidney disease had significantly lower LDL levels, almost similar HDL levels, and significantly higher HDL/LDL ratios. Therefore, it seems that the management of dyslipidemia in these patients should be personalized and based on the general health condition and stage of the disease of each patient, and the use of anti-lipid drugs should be done with caution and with careful and regular monitoring of lipid levels.

**Keywords:** Chronic kidney disease, HDL/LDL ratio.