

## عنوان مقاله:

Serum Lipid Profile and Steroid Hormone Levels in Patients With Colorectal Cancer

## محل انتشار:

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## نویسندگان:

Roya Abbasi Natajomrani - *Department of Biology, Payame Noor University, Tehran, Iran*

Durdi Qujeq - *Cellular and Molecular Biology Research Center (CMBRC), Health Research Institute, Babol University of Medical Sciences, Babol, Iran*

Reza Hajihosseini - *Department of Biology, Payame Noor University, Tehran, Iran*

Vahid Hosseini - *Gut and Liver Research Center, Mazandaran University of Medical Sciences, Sari, Iran*

## خلاصه مقاله:

**Background:** Lipids are usually crucial to develop tumors, and dyslipidemia is correlated with the high chance of colon and colorectal cancer (CRC). Steroid hormones such as estrogen and progesterone can decrease the risk of CRC development. **Objectives:** The present study aimed to compare the serum levels of lipid profile and steroid hormones in patients with CRC and healthy controls. **Methods:** The present study included ۴۰ consecutive adult patients with CRC in the Mazandaran Cancer Center, Sari, Iran, between ۲۰۱۷ and ۲۰۲۰. The diagnosis of CRC was evaluated based on colonoscopy with biopsy and CT scan. Also, the diagnosis of CRC was based on NCCN clinical practice guidelines in oncology. Blood samples were taken before treatment during routine testing. A ۵ mL of peripheral blood was collected from each patient. All patients signed the written consent for the study. Also, a total of ۴۰ healthy subjects were selected as healthy controls from the same area during a routine physical examination, which was also confirmed by screening colonoscopy and pathology. Serum total cholesterol (TCH) and triglyceride (TG) levels were quantitatively determined by the colorimetric method. Low-density lipoprotein cholesterol (LDL-C) and high-density lipoprotein cholesterol (HDL-C) were determined by the turbidimetric immunoassay. Steroid hormones were quantitatively determined by the enzyme-linked immunosorbent assay (ELISA) according to the reagent manufacturer's instruction. To analyze data, the SPSS software package (version ۲۱) was applied. **Results:** Among all the indicators studied, the mean  $\pm$  SD of testosterone, follicle-stimulating hormone (FSH) and luteinizing hormone (LH) levels was higher ( $1.85 \pm 1.63$  ng/mL,  $15.35 \pm 0.13$  mIU/L,  $12.42 \pm 0.12.16$  mIU/mL) in patients with CRC than healthy controls ( $0.40 \pm 0.21$  ng/mL,  $6.27 \pm 0.50$  mIU/mL,  $2.89 \pm 0.20$  mIU/mL,  $P < 0.05$  respectively). The results in subgroups showed that the mean testosterone ( $0.91 \pm 1.2$  ng/L), FSH ( $19.11 \pm 16$  mIU/mL), LH ( $14.49 \pm 14$  mIU/mL) levels in the female patients with CRC was higher than healthy female controls and had more statistical significance ( $P = 0.02, 0.00, 0.00$ ), respectively. The area under the AUC curve of the testosterone, FSH, and LH indicates positive test ( $0.670, 0.726$  and  $0.775$ ). **Conclusion:** Changes in the levels of steroid hormones and lipids could correlate with the elevated chance of CRC. Therefore, assessment of multiple markers might overcome and provide better judgment in patients with CRC.

## کلمات کلیدی:

Colorectal cancer, DHEA, lipid profile, HDL-C, LDL-C, TG, Steroid hormones, Estradiol, Testosterone

