**IMPACT: International Journal of Research in Applied, Natural and Social Sciences (IMPACT: IJRANSS)**
**ISSN(E): 2321-8851; ISSN(P): 2347-4580**
**Vol. 4, Issue 5, May 2016, 117-124**


# THE SERUM LEVEL OF SUPEROXIDE DISMUTASE AND THE RISK OF OSTEOPOROSIS IN PREMENOPAUSAL WOMEN WITH ENDOMETRIOSIS

**FIRAS FADHIL ALWAN ALYASEEN**

PhD Pharm, Clinical Biochemistry, University of Thi-Qar, College of Pharmacy, Thi-Qar, Iraq

## ABSTRACT

### Objective

The aim of this study is to evaluate the superoxide dismutase enzyme's level and its effects, in patients with premenopausal endometriosis, on the serum levels of bone formation markers, bone resorption markers and osteoporosis.

### Subjects and Methods

In this case-control study, eighty female patients had endometriosis, at their reproductive age with standard criteria, were participated in this study. Eighty apparently healthy females were enrolled in this study as a control group for comparison. Assessments of the serum levels of; superoxide dismutase enzyme, alkaline phosphatase enzyme, carboxy terminal telopeptides of type I collagen, carboxyterminalpropeptide of type I procollagen, total calcium and inorganic phosphate were performed by the use of enzyme-linked immunosorbent assay and colori metric methods.

### Results

The results revealed that the serum levels of;superoxide dismutase enzyme, alkaline phosphatase enzyme, carboxyterminaltelopeptides of type I collagen, carboxyterminalpropeptide of type I procollagen and total calcium were significantly changed in patients with premenopausal endometriosis as compared with the control group. The change of serum inorganic phosphate level was non-significant as compared to the control group.

### Conclusions

The raised antioxidant activity of superoxide dismutase enzyme was an important indicator of the elevated oxidative stress status that may be involved in the development of osteoporosis in patients with premenopausal endometriosis as described by the serum levels of bone formation and resorption biomarkers.

**KEYWORDS:** Endometriosis, Osteoporosis, Superoxide Dismutase