# Serum Levels of Hypersensitive-C-Reactive Protein in Vitiligo

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Sir,

Vitiligo is an idiopathic depigmentory skin disorder.[1] One of the first clues for the involvement of cellular immunity in the pathogenesis of vitiligo was the discovery of T-cell infiltration in the margins of vitiligo skin lesions.[2] Furthermore, increased production of interleukin (IL)-6, IL-8 and tumor necrosis factor-alpha (TNF-α) has been reported in vitiligo patients.[3,4]

C-reactive protein (CRP) is a sensitive marker for systemic inflammation. IL-1, IL-6 and TNF-α are mediators for the modulation of hepatic synthesis of acute-phase reactants such as CRP.[5] Thus, we designed this research to answer the question whether the magnitude of inflammation in vitiligo skin is high enough to cause a systemic inflammation and raise hypersensitive-CRP (hs-CRP) levels.

Following ethics approval, a total of 24 patients with progressive, nonsegmental vitiligo, aged between 20 and 50 years, with a body surface involvement of at least 3% and disease duration of more than 2 months were sequentially enrolled in the study. Exclusion criteria included systemic or topical anti-vitiligo therapy in the previous month and the conditions that could affect CRP levels such as smoking, high blood pressure, and coexistent chronic inflammatory disorders other than vitiligo such as rheumatic diseases.

The percentage of total body surface area (TBSA) affected by vitiligo was calculated by using the rule of nines, with the palmar hand being about 1% of TBSA.

Twenty-four age and sex-matched healthy controls, without any skin disorders or other exclusion criteria, were enrolled as control group.

After consenting, the participants underwent 5cc blood sampling in fasting state. The blood samples were centrifuged and the resultant sera were frozen at −70°C.

Hs-CRP levels of the sera were measured using ELISA kit (product code: 3125-300, Monobind Inc., Lake Forest, CA92630, USA). CRP levels were quantified by a microplate reader that measured the amount of light being absorbed at 450 nm. ELISA kit sensitivity for CRP measurement was 0.2 μg/ml.

Comparison of CRP levels between the two groups was done using two independent sample *t*-test.Statistical analysis was performed using SPSS version 15 (SPSS Inc., Chicago, IL, USA).

The mean ages of patients and controls were 30.42 ± 6.44 and 29.58 ± 6.44, respectively. The two groups were matched for age using Chi-square test ($P = 0.822$).

No significant difference with respect to sex was found between the two groups as determined by the Chi-square analysis ($P = 0.558$).

Hs-CRP levels in the case group varied between 0.10 and 34.60 μg/ml, with an average of 3.22 ± 6.98 μg/ml (mean ± SD). CRP levels of control groups varied between 0.10 and 12.90 μg/ml, with an average of 1.78 ± 2.72 μg/ml.

The statistical analysis was performed using two independent sample *t*-test. The results showed no significant difference in the mean levels of hs-CRP between the two groups ($t = 0.939$, 95% confidence interval: lower = 1.6427, upper = 4.5177; $P = 0.21$).

A meta-analysis done by Beygi *et al.* suggested that CRP levels are elevated among psoriatic patients.[6] One study showed that mean CRP level was higher in the rosacea group than in the control group (0.429 vs. 0.243 mg/L, $P = 0.007$).[7] Another study showed that acne vulgaris, even in its severe grades, does not induce significant inflammation at the systemic level.[8]



**How to cite this article:** Namazi MR, Nozari F, Ghoreyshi H. Serum levels of hypersensitive-c-reactive protein in vitiligo. Indian Dermatol Online J 2018;9:53-4.

**Received:** April, 2017. **Accepted:** July, 2017.

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**Access this article online**

**Website:** www.idoj.in

**DOI:** 10.4103/idoj.IDOJ_101_17

**Quick Response Code:**

Our research shows that the local inflammation induced by vitiligo has insignificant effect on the CRP level. However, another study involving a higher number of participants with higher percentages of body involvement and longer disease duration is encouraged to shed more light on this important subject.


## *Financial support and sponsorship*

Shiraz University of Medical Sciences.


## *Conflicts of interest*

There are no conflicts of interest.

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