

Decreased Hydrosoluble Antioxidant Capacity in Women: Comment on the Paper by Guarrera & Rebora on Polymorphic Light Eruption

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Sir,

We read with interest the paper of Guarrera & Rebora (1) on the hydrosoluble antioxidant capacity (HAOC) of serum of patients with polymorphic light eruption (PLE). We were involved in a similar study that aimed to establish the role of uric acid in total HAOC. In particular, Guarrera & Rebora observed that the total HAOC is reduced in females regardless of whether they are patients or controls. We regard this novel finding as important and worthy of confirmation.

We studied 55 subjects (21 men and 34 women; age range 21–62 years). Fourteen of them (3 men and 11 women; aged 40 ± 12.8 years) had PLE and 41 were controls (18 men and 23 women; aged 41 ± 11.1 years). All patients gave their informed consent.

Triplicate HAOC measurements in the presence and absence of uricase were obtained with commercial kits, PAO and PAO-U (MED-DIA, Vercelli, Italy). All serum samples were processed at the time of collection. Statistical analysis was performed with MiniTab ver. 15. (Table I).

HAOC measurements in samples deprived of uric acid (HAOC-uricase) were lower than in those with uric acid ($F=205.6$, $p < 0.001$) and total HAOC values were lower in patients with PLE than in controls ($F=5.26$, $p=0.026$). What is important here is that HAOC values in women (regardless of whether they were patients or controls) were significantly lower than in men

($F=25.66$; $p < 0.0001$). Incidentally, women with PLE had lower HAOC values than women controls ($F=4.29$; $p=0.047$).

Our results indicate that uric acid accounts for approximately 50% of total HAOC and confirm the basal low values of HAOC in females. This may explain why women are more prone than men to develop PLE.

REFERENCE

- Guarrera M, Rebora A. Serum antioxidant capacity in polymorphic light eruption. *Acta Derm Venereol* 2007; 87: 228–230.

Table I. Hydrosoluble antioxidant capacity (HAOC) measurements in subjects with polymorphic light eruption (PLE) and in controls

Variables	n	HAOC ($\mu\text{mol/l}$) Mean \pm SD	HAOC-uricase ($\mu\text{mol/l}$) Mean \pm SD
<i>Subjects</i>			
PLE	14	756 \pm 199.5	358 \pm 137.8
Controls	41	904 \pm 211.3	416 \pm 161.3
<i>Gender</i>			
Men	21	1022 \pm 215.4	407 \pm 198.2
PLE	3	980 \pm 316.2	401 \pm 203.2
Controls	18	1029 \pm 206.0	408 \pm 203.4
Women	34	770 \pm 153.6	397 \pm 127.2
PLE	11	695 \pm 119.9	347 \pm 132.2
Controls	23	806 \pm 159.7	421 \pm 123.5

Note: The authors of the original article (Guarrera & Rebora) were given the opportunity to comment in response to this letter, but did not find it necessary to do so.