

“TRACE’89”



Abstract Book

**THIRD INTERNATIONAL CONGRESS
ON TRACE ELEMENTS IN HEALTH
AND DISEASE**

March 31 - April 8, 1989

**ÇUKUROVA UNIVERSITY
ADANA, TURKEY**

ZINC STATUS IN TURKISH WOMEN WITH NEURAL
TUBE DEFECTS (NTD)

A.O. Çavdar*, M.Bahçeci**, N.Akar*,
J.Erten*, G.Bahçeci*, H.Yavuz**,
F.N.Dinçer*

* Zinc Unit in Pediatric Hematology and
Oncology Research Center of Ankara
University, Ankara TURKEY

** Obstetrics and Gynecology Department
of Ankara University, Ankara-TURKEY

Serum and hair zinc concentrations were analysed in samples taken from 29 mothers with neural tube defects, mainly anencephaly, at delivery. The control groups consisted of 20 healthy mothers with normal offspring and 40 nonpregnant age matched women from middle income group. Zinc levels in the blood (plasma, red blood cells) and hair of 8 newborn infants with NTD (4 being anencephalic) were also compared with those of normal newborn infants (n: 11 to 15). The mean maternal serum ($60.6 \pm 13.9 \mu\text{g}\%$) and hair zinc concentrations ($141.4 \pm 54.2 \mu\text{g/g}$) in the NTD group were lower than those of the control mothers ($72.5 \pm 8.8 \mu\text{g}\%$ and $182.0 \pm 64.4 \mu\text{g/g}$ respectively) and the nonpregnant women.

The mean zinc concentration in the hair of malformed babies ($250.4 \pm 85.2 \mu\text{g/g}$) was significantly higher than those of 15 normal infants ($193.4 \pm 39.2 \mu\text{g/g}$) ($P < 0.05$) while the mean plasma zinc concentrations was significantly lower ($59.4 \pm 9.1 \mu\text{g/dl}$) compared with $68.7 \pm 10.8 \mu\text{g/dl}$ ($P < 0,01$). No difference was found between the mean values of red blood cell zinc levels for the two groups of infants. Maternal zinc deficiency may be considered one of the factors responsible for NTD in Turkey.