

Plasma Kisspeptin Levels of Infants with Telarge in Neonatal Period

Avni Kaya, Zerrin Orbak, Harun Polat*, Atilla Çayır, Abdullah Erdil, Hakan Döneray
Ataturk University, Faculty of Medicine, Department of Pediatric Endocrinology, Erzurum, Turkey

*Ataturk University, Faculty of Medicine, Faculty of Medicine, Department of Biochemistry, Erzurum, Turkey

- **Introduction:**
 - Kisspeptin is a powerful neuropeptide that stimulates the release of follicle stimulating hormone (FSH) and luteinizing hormone (LH) from the pituitary. It exhibits this effect through gonadotropin-releasing hormone. Kisspeptin is synthesized in the anteroventral periventricular nucleus and the arcuate nucleus in the hypothalamus. A significant rise in FSH, LH and testosterone levels when kisspeptin is administered intravenously demonstrates that its role in the hypothalamo pituitary gonadal axis. Kisspeptin is one of the peptides regulating neuroendocrine events initiating puberty in humans and animals. Kisspeptin levels have previously been studied in premature thelarche and precocious puberty, but data for the newborn period are inadequate.
- **Aim:**
 - Kisspeptin levels do not studied in neonatal period breast enlargement despite kisspeptin have performed premature thelarche, puberty precocious and adolescence gynecomastia. Kisspeptin levels may be relationship the hypothalamic-pituitary-gonadal axis activating in babies. The studies investigating kisspeptin levels in the neonatal period is very limited. This study was intended to investigate plasma kisspeptin hormone levels in newborns with or without breast enlargement.
- **Materials and Methods:**
 - This prospective study was performed to determine plasma kisspeptin levels in babies admitted to the Erzurum Ataturk University Faculty of Medicine Research and Educational Hospital Pediatric Endocrinology Policlinic in September 2013-March 2014. Forty infants (20 girls and 20 boys) were included as the study group and 40 healthy infants (20 girls and 20 boys) as the control group. Two-milliliter venous blood samples were taken up in hemogram tubes with K2EDTA. Plasma samples were performed using the enzyme-immunoassay method.
- **Results:**
 - Mean plasma kisspeptin levels were 0.55 ± 0.16 ng/ml in the breast enlargement group and 0.48 ± 0.1613 ng/ml in the control group. Plasma kisspeptin levels ($P=0.039$) and serum prolactin levels ($P=0.006$) different significantly. Significant correlations were determined between plasma kisspeptin levels and luteinizing hormone levels ($P=0.05$, $r=0.312$).
- **Conclusion:**
 - In this study, plasma kisspeptin levels were identified in newborns. Plasma Kisspeptin and serum prolactin may be involved in the physiopathology of breast enlargement in newborns.