Study of plasma levels of Metastin during sexual development in girls

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Hypothalamic KiSS1 and GPR54 expression has been found to be increased during pubertal development in different species. However, no data are available on the peripheral levels of metastin during sexual development. The current study was conducted to examine the relationship between circulating metastin levels and sexual development of girls. Blood samples from newborn girls (cord blood), girls across five Tanner’s stages of puberty, adult and postmenopausal women (n=10/group) were obtained. Quantitative measurements of metastin and LH in plasma samples were done by using specific EIA and ELISA, respectively. The highest levels of plasma metastin like immunoreactivity were observed in the newborn girls (mean±SEM: 9.75±1.69 ng/ml). Although the levels of metastin were found to be higher in Tanner’s stage I (3.22±0.73 ng/ml) and stage II (4.25±1.06 ng/ml), and lower in stage III (3.04±0.97 ng/ml), IV (1.85±0.25 ng/ml) and V (2.36±0.52 ng/ml), there was no significant difference. The mean levels in adults (1.87±0.35 ng/ml) were somewhat reduced as compared to the stage V values. The metastin levels in postmenopausal women (4.44±1.17 ng/ml) were found to be increased as compared to pubertal and adult stage levels. Plasma LH levels were found to be undetectable in most of the newborns, showed an increasing trend across the pubertal stages, and highest in the postmenopausal women. No correlation was found between circulating metastin and LH. The present study identifies measureable but unvarying levels of metastin like immunoreactivity in sexual developmental stages of girls. However, the notion that a change in sensitivity of central neurobiological mechanism to circulating metastin milieu can lead to triggering of puberty remains to be tested.

Biography

Sumera Gul has done her MBBS in year 2006 from Dow Medical College, Karachi. Later she did her M.Phil in Endocrinology from Quaid-e-Azam University, Islamabad. Currently she is working as assistant professor of Physiology and doing her PhD in Molecular Medicine from Dr. Panjwani Centre for Molecular Medicine and Drug Research, University of Karachi. She has published 7 papers in reputed journals and counting. Her work of interest are Kisspeptin, Leptin and depression.

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