

**Background:** The precise neuro-endocrine mechanisms underlying activation of hypothalamic-pituitary-gonad axis maturation are elusive. The wide age range of pubertal onset among normal individuals throughout the world may suggest that both genetic and environmental factors modulate the timing of puberty. Early activation of the hypothalamic-pituitary-gonad axis, termed central precocious puberty (CPP), causes psychosocial difficulties and may lead to compromised final height, especially if medical intervention is delayed

**Objective:** Depot Gonadotrophin releasing hormone analogues are widely used in the treatment of precocious puberty or suppression of relatively early puberty where growth or psychosocial well-being may be compromised. One example is Zolidex (goserelin 3.6 mg), which can be given every 4 weeks to stop hypothalamic –pituitary ovarian axis until suitable age to start normal activation.

**Patients and Method:** The study conducted in Babylon Maternity and Paediatrics Teaching Hospital during the period from September 2006 till September 2011. Ten girls with clinical evidence of central precocious puberty were started on Zolidex. Their ages at diagnosis ranged from eight months to 60months (mean 30.3 months). Treatment every four weeks with Zolidex and follow up the response regarding symptoms and signs, ultrasound findings and hormonal assay until the end of the study.

**Results :** At diagnosis their ages ranged between (8 – 60) months, their weight between (7.5-16) kg mean  $12.1 \pm 2.22$ , height (70 -105)cm mean  $75.7 \pm 2.54$ , body mass index 14.51- 21.33 mean  $12.15 \pm 2.01$ . clinical presentation breast development associated with pubic hair and vaginal bleeding in three cases. Ultrasound findings uterus large for age in all the cases except one and follicular activity in seven cases return to normal after treatment and remain as such for the rest of the study also Serum Follicular Stimulating Hormone (FSH) before treatment 12.8 IU/L, and 0.4 IU/L after treatment P value 0.0001, serum Luteinizing Hormone (LH) before treatment was 17 IU/L and after treatment 0.5 IU/L P value 0.0001 and remained normal for the rest of the follow up period..

**Conclusion:** Zolidex-LA induces a significant reduction in symptoms over 12 weeks and great reduction in gonadotrophins within six months.