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CHRONIC, INTERMITTENT ADMINISTRATION OF GONADOTROPIN-RELEASING HORMONE (LHRH) IN INFERTILE WOMEN WITH DIFFERENT CYCLE ABNORMALITIES. R. Rolland*, R.H.W. Lorijn and W.N.P. Willemsen, Sint Radboud University Hospital, Nijmegen, The Netherlands.

Since 1982 chronic, intermittent i.v. administration of LHRH (Zyklomat®, Ferring,Kiel,GFR) has been carried out in women suffering of infertility due to cycle abnormalities in an attempt to explore the effect of LHRH on the chance to conceive. The following groups were studied: Women with hypogonadotropic amenorrhoea, (n=18), polycystic ovarian disease (PCO, n=4) and luteal phase defects (n=5). LHRH was administered i.v. (5 µg/90 min) during the whole menstrual cycle. In none responsers the dose was increased by 5 µg per puls during the next cycle etc. The hypogonadotropic group: 39 ovulatory cycles were registered. 9 women conceived during the first, 3 during the second and 2 during the fourth cycle. 4 pregnancies ended in early abortions, twice in the same woman. All other pregnancies went normal, with healthy offspring or are still in progress. In one woman a twin pregnancy occurred. The PCO-group: 16 cycles were induced. None of the women conceived during treatment, one pregnancy was registered following withdrawal of the pump. PCO-women did not respond well to this type of treatment with a worsening of the LH/FSH ratio and an increase in serum androgen concentration. Luteal phase defects: 18 ovulatory cycles were induced. In comparison to their pretreatment levels the mean progesterone level during the luteal phase rose by 32% to 51 nmol/l with an increase of the luteal length from 10 to 14 days. However, none of the women conceived.In conclusion chronic, intermittent i.v. administration of LHRH seems of great advantage in the treatment of infertility due to hypogonadotropism whereas in cases of the PCO-syndrome or luteal phase defects the pregnancy rate is very poor.

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TREATMENT (RX) OF PRECOCIOUS PUBERTY WITH THE SYNTHETIC GnRH AGONIST BUSERELIN (HOE 766). C. Rouwé*, S. Drop M. Jansen, and B. Otten. Departments of Pediatrics, University of Groningen, Rotterdam, Utrecht, Nijmegen, the Netherlands.

20 girls and 3 boys (age range 2-8 yrs.) with precocious puberty (PP) were treated with HOE 766, administered subcutaneously for a period of up to 8 mo.. Cyproterone acetate (CPA) (100-150 mg/m^2/d), previously given in 11/23 patients, was tapered during the first 4 wks. of Rx. In 18 pat. HOE 766 was given in a dosage of 10 µg/kg b.i.d. s.c. for 1 wk. and once a day for the ensuing 6-20 wks. After the initial induction, basal LH serum values ranged from 3-10 1U/l. The LH/ FSH response to LH-RH (100 µg i.v.) was blunted. After the first week, basal serum estradiol (E_2) values (before HOE 766 Rx: 40-300 pmol/l) in creased to 1000 pmol/l. After 6-20 wks. E_2 values ranged 50-150 pmol/l in 13/15 girls. The sexual signs did not regress and menses persisted. Therefore, 20 ug/kg b.i.d. HOE 766 was given for 1 wk, followed by the same dose once a day (evening). Another 5 pat. were started on this protocol. Basal LH values were 4-6 1U/l, E_2 concentrations fell to 40 pmol/l, pubertal signs regressed and menses stopped. The 3 boys required several adjustments of the dose (up to 20 µg/kg b.i.d.) in order to reach testosterone serum values 1 nmol/l.The s.c. administration was well tolerated; no side effects. Especially in the CPA treated patients, activity and behavior improved. We conclude that daily s.c. HOE 766 Rx is effective in suppressing gonadal function in children with pp. Careful monitoring of anthropometric and hormonal data and individualization of the dosage are necessary for long-term gonadal suppression and will lead to an improvement of final height prediction.