Introduction: In patients with late onset adrenogenital syndrome, not only peripheral androgen but also 17α-OH-progesterone and progesterone concentrations may be elevated. A subtle rise in serum progesterone concentration during the follicular phase can adversely affect the maturation and fertilization of oocytes. Furthermore, it may accelerate endometrial decidualization and produce an unfavourable environment for implantation. Whereas the determination of 17α-OH-progesterone is an established diagnostic tool, the value of progesterone as a marker for adrenal sufficiency has not been properly investigated.

Materials and methods: In a study of 158 infertility patients, progesterone, testosterone and dehydroepiandrosterone-sulphate (DHEA-S) concentrations were determined on day 4 or 5 of the menstrual cycle. The mean duration of infertility was 2.6 years. Tubal patency was proved for all patients. Of these, 140 patients showed normal progesterone concentrations (0.61 ± 0.42 ng/ml; mean ± SD), whereas in 18 patients the progesterone serum concentrations were significantly elevated (2.27 ± 0.76 ng/ml; mean ± SD). In four of these 18 patients the testosterone serum concentrations were also above normal (>1 ng/ml), and in 10 patients the DHEA-S concentrations were significantly increased (3917 ± 732 ng/ml; mean ± SD).

Results: The treatment of hyperprogesteronaemic patients with 2.5–7.5 mg prednisolone per day for 4–6 weeks resulted in normalization of the progesterone concentrations. In 12 out of 18 patients pregnancy could be achieved after prednisolone therapy by either timed intercourse or intrauterine insemination.

Conclusion: Elevated progesterone concentrations during the early follicular phase interfere with female reproductive performance. Glucocorticoid treatment improves ovarian and endometrial function and thereby improves pregnancy rates in spontaneous cycles and in cycles of assisted fertilization.

References:
Adams et al. (1986) Br. Med. J.