

Flexible GnRH antagonist protocol versus GnRH agonist long protocol in patients with polycystic ovary syndrome treated for IVF: a Prospective randomised controlled trial (RCT)

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Background: Women with polycystic ovary syndrome (PCOS) are at risk of developing ovarian hyper stimulation syndrome (OHSS) during ovarian stimulation. Use of GnRH antagonist in the general sub-fertile population is associated with lower incidence of OHSS than agonists and similar probability of live birth but it is unclear if this is true for patients with PCOS. Our aim was to compare the flexible GnRH antagonist and GnRH agonist long protocols in patients with PCOS undergoing IVF (primary end-point: ongoing pregnancy rate per patient randomized). Methods: In this randomized controlled trial (RCT), 220 patients with PCOS were randomly allocated in two groups: long GnRH agonist down-regulation protocol (n = 110) and flexible GnRH antagonist protocol (n = 110). Results: No differences were observed in ongoing pregnancy rates [50.9 versus 47.3%, difference 3.6%, 95% confidence interval (CI): 29.6 to 16.8%] in the agonist and antagonist protocols, respectively. Incidence of OHSS Grade II was lower in the antagonist compared with agonist group (40.0 versus 60.0%, difference 20.0%, 95% CI: 27.1 to 32.9%, P : 0.01). Duration of stimulation (10 versus 12 days, difference 2 days, 95% CI: p1 to p2, P : 0.001) and total gonadotrophin required (1575 IU versus 1850 IU, difference 2275 IU, 95% CI: 225 to 2400, P : 0.05) were also lower in the antagonist compared with agonist protocol. Conclusions: The current RCT suggests that the flexible GnRH antagonist protocol is associated with a similar ongoing pregnancy rate, lower incidence of OHSS grade II, lower gonadotrophin requirement and shorter duration of stimulation, compared with GnRH agonist. The GnRH antagonist might be the treatment choice for patients with PCOS undergoing IVF

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