

Abstract

Objectives: To evaluate the quality of controlled ovarian stimulation (COS) with Tamoxifen for patients with estrogen receptor positive breast cancer.

Evidence Review: PubMed, Embase and Cochrane Library were searched on Oct 30, 2022. We included studies investigating COS with Tamoxifen for fertility preservation of patients with breast cancer compared with COS with either Letrozole or Gonadotrophin. The main outcome measures were the quality of COS: the total number of retrieved oocytes (TOR), the total number of mature oocytes (TMO) and peak estradiol levels with COS (PEL) . We evaluated randomized controlled studies (RCT) and cohort trials using the Risk of Bias 2.0 assessment tool outlined in the Cochrane Handbook for Systematic Reviews of Interventions and Risk of Bias Assessment tool for Non-randomized Studies. The random effects model was used to pool the data.

Results: Four studies (348 patients, 2 randomized controlled trials, and 2 cohort studies) were included in our meta-analysis. There was no significant difference in TOR and TMO between COS with Tamoxifen and COS with Letrozole (TOR, 95%CI -3.84 - 2.90; TMO, 95%CI -2.20 - 2.64). There was no difference in TOR between COS with Tamoxifen and COS with Gonadotrophin only (TOR, 95%CI -6.14 – 1.86). Regarding PEL, a statistically significant decrease was found in COS with Tamoxifen compared with Letrozole (Mean difference, 3184.0 pg/ml; 95%CI, 1414.4 – 4953.7), while no difference was observed between COS with Tamoxifen and with Gonadotrophin only.

Conclusions: The quality of COS was not different between COS with Tamoxifen and COS with Letrozole or Gonadotrophin only. The sample size of all eligible studies was small; therefore, further studies are needed.

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Reproductive Techniques, Assisted;