

Prevention of Chemotherapy-Induced Ovarian Failure with Goserelin in Premenopausal Lymphoma Patients

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ABSTRACT

Purpose: To determine the effectiveness of gonadotropin-releasing hormone agonist (GnRHa) (Goserelin acetate) in preserving ovarian function in premenopausal women undergoing combined chemotherapy for Hodgkin or non-Hodgkin lymphoma by documenting the changes in hormonal levels.

Design: Prospective randomized controlled study.

Setting: Oncology Department, Beni-Suef University Hospital, Beni-Suef, Egypt.

Methods: Fifty-two females aged 17–40 years old were assigned at random to receive combined GnRHa (Goserelin acetate) and standard chemotherapy for 6 months (goserelin group, n = 26), or standard chemotherapy alone (control group, n = 26). Goserelin (3.6 mg) was given subcutaneously at the start of chemotherapy every 4 weeks for 6 months. The levels of follicle stimulating hormone (FSH) and Estradiol (E2) were measured at 3 and 6 months (6–8 cycles) during the chemotherapy regimen and 3 months after, AMH anti-Mullerian hormone was measured at base line and end of follow up, also assessment of clinical history (menstrual rhythm). In addition, side effects were observed and recorded during therapy and overall response to the treatment.

Results: The goserelin group showed significantly lower FSH levels compared to the control group at 3 and 6 months of treatment and after 3 months of chemotherapy, and higher menstrual recovery percentage after completion chemotherapy, also better higher ovarian reserve. However, the E2 level was not significantly different between groups. The occurrence of adverse events was similar in both groups, and there was no significant difference in overall response to the treatment at the end of follow-up.

Conclusion: In young females, concurrent administration of goserelin acetate during chemotherapy may preserve ovarian function, with a mean FSH level < 10 IU/L and protect from premature ovarian failure (POF). However, a long-term study is required to further validate these findings.

Key words: Premature ovarian failure, Goserelin, GnRHa, Premenopausal women, Lymphoma

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