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Atypical cells in the ascitic fluid of women with ovarian hyperstimulation syndrome: Follow up and assessment of malignancy

Balint Farkas^{1,2}, Ioannis Hatzipetros¹, Peter M Gocze¹, Katalin Cziraky¹, Jozsef Bodis^{1,2} and Endre Kalman¹

¹University of Pecs, Hungary

²MTA-PTE Human Reproduction Scientific Research Group, Hungary

Background: Although some studies have reported a potential connection between ovulation induction therapy (OIT) and malignant ovarian diseases, the results have been unclear. In the present study, we sought to determine whether women undergoing OIT at our *in vitro* fertilization (IVF) clinic, especially those with severe ovarian hyperstimulation syndrome (OHSS) and suspicious cytologic findings, were at risk for developing malignant ovarian tumors after treatment.

Methods: Patients who underwent OIT at our IVF clinic were enrolled in this study and assessed for any evidence of malignant ovarian tumors. Patients who developed severe OHSS as a result of OIT were treated by culdocentesis. Cells from the ascites fluid were cytologically scored for abnormality and malignancy. Peripheral blood samples were obtained from patients with severe OHSS to determine serum levels of tumor markers (CA-125 and HE4), which were used to calculate the Risk for Ovarian Malignancy Algorithm (ROMA) index.

Results: Follow-up data were available for 1,353 of the 1,587 patients (85%) who underwent OIT at our IVF clinic between January 2006 and December 2012. Twenty-three patients (1.4%) were hospitalized with OHSS. Culdocentesis was performed 16 times in nine patients with severe OHSS (age range, 23–34 years; mean, 27.1 years). Although cytological examination of the ascites cells of these patients suggested malignant ovarian neoplasia, the ovarian volume gradually decreased and became normal during observation. Subsequent cytological and histological examinations failed to find evidence of any malignant tumor in these nine patients. None of the 1,353 participants who underwent OIT developed any ovarian malignant tumor during the study period. Moreover, none of the 462 patients in our ovarian tumor registry had also attended the IVF program.

Conclusions: Atypical cells in the ascites fluid of women with severe OHSS likely do not indicate malignancy, and radical surgical intervention is not justified. The risk of malignancy is minimal shortly after OIT. At our center, OIT has not been associated with any cases of ovarian tumor.

Biography

Balint Farkas graduated in 2005 at the University of Pecs, Faculty of General Medicine, in Hungary. After spending two years at Rush University Medical Center, Chicago, IL, by investigating the genetic background of autoimmune diseases under the supervision of Professor Glant, has completed his MD, PhD program at the age of 28 years, from the University of Pecs, School of Medicine, Hungary. Currently he works as a physician at the Department of Obstetrics and Gynecology, as a specialist doctor. He has published more than 12 papers in reputed journals and participating several ongoing clinical researches.

dr.balint.farkas@gmail.com