

Perbandingan kadar vitamin D dan zink di serum serta cairan folikular pada pasien endometriosis dengan non-endometriosis yang sedang menjalani program fertilitasi in vitro = Comparison of vitamin D and zinc concentration in serum and follicular fluid in women with and without endometriosis undergoing In vitro fertilization

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Abstrak

Pendahuluan: Endometriosis berkaitan dengan adanya inflamasi kronik, gangguan maturasi oosit, peningkatan stress oksidatif radikal, dan apoptosis yang kemudian mendasari terjadinya infertilitas pada wanita usia subur. Fertilisasi In Vitro (FIV) merupakan salah satu teknik yang dapat menangani infertilitas dengan tingkat keberhasilannya bergantung dengan kualitas oosit yang diambil untuk menjadi embrio. Kualitas oosit dipengaruhi oleh nutrisi. Profil mikronutrien seperti vitamin D dan zink dianggap mempengaruhi fungsi reproduksi melalui aktivitas anti-inflamasi, anti-apoptosis dan anti-oksidan yang dimiliki. Sayangnya, urgensi untuk menjaga adekuasi nutrisi ini sering diabaikan. Selain itu juga hingga saat ini belum ada acuan untuk memprediksi kadar profil vitamin D dan zink dalam serum dan cairan folikular yang berhubungan pada pasien endometriosis itu sendiri.

Tujuan: Penelitian ini membandingkan kadar vitamin D dan zink di serum dan cairan folikular pada pasien endometriosis dan non-endometriosis.

Metode: Studi ini merupakan studi potong lintang yang dilaksanakan pada pasien Fertilisasi In Vitro (FIV) di Klinik Yasmin, RSCM Kencana selama Juli – Desember 2020. Data klinis diperoleh melalui rekam medis dan wawancara pasien. Data laboratorium diperoleh melalui sampel darah dan cairan folikuler yang diperoleh bersamaan dengan prosedur Ovum Pick Up (OPU). Sampel kemudian dikelompokkan menjadi kelompok endometriosis dan non-endometriosis. Setelah itu data disajikan dalam tabel dan dianalisis dengan uji parametrik, yaitu uji-t berpasangan bila sebaran data normal atau uji non parametrik, yaitu uji Mann-Whitney bila sebaran data tidak normal. Data dianalisis dengan SPSS 24.

Hasil: Dari jumlah sampel 26 pasien pada studi ini, didapatkan tidak adanya perbedaan bermakna dari vitamin D serum pada pasien endometriosis (22,83 (5,00 – 40,00)) dan non endometriosis (30,11 (10,40-76,10)), namun secara rerata kadar vitamin D serum pada pasien endometriosis lebih rendah. Kadar vitamin D cairan folikular pada pasien endometriosis (15,33 (4,50-36,32)) dan non-endometriosis (23,64 (4,98-60,22)) tidak berbeda bermakna ($P>0,05$). Kadar zink serum pada pasien endometriosis ($75,23 \pm 11,58$) dan non-endometriosis ($79,46 \pm 12,09$) tidak berbeda bermakna ($P>0,05$). Konsentrasi zink pada cairan folikular tidak menunjukkan perbedaan bermakna antara pasien endometriosis (39,00 (22,00 – 49,00)) dan tanpa endometriosis (51,00 (19,00-95,00)) ($P>0,05$).

Kesimpulan: Tidak ditemukan perbedaan bermakna antara kadar vitamin D serta zink serum dan cairan folikular pada pasien endometriosis dan non-endometriosis.

.....Background: Endometriosis associates with chronic inflammation, dysfunction of oocyte maturation, increase of oxidative stress, and apoptosis which underlie infertility problem in reproductive female. In-

Vitro Fertilization (IVF) is a technique used to treat infertility with the success rate depending on the quality of the oocytes extracted to become embryos. Oocyte quality is influenced by nutrition. Micronutrient profiles such as vitamin D and zink are thought to influence reproductive function through their anti-inflammatory, anti-apoptotic and anti-oxidant activities. However, the urgency of maintaining nutritional adequacy is often overlooked. In addition, until now there is no reference for predicting levels of vitamin D and zink in serum and follicular fluid associated with endometriosis.

Method: This study is a cross-sectional study conducted on In Vitro Fertilization (FIV) patients at the Yasmin Clinic, RSCM Kencana during July – December 2020. Clinical data were obtained through medical records and patient interviews. Laboratory data were obtained through blood and follicular fluid samples obtained in conjunction with the Ovum Pick Up (OPU) procedure. The samples were then grouped into endometriosis and non-endometriosis groups. After that the data are presented in tables and analyzed by parametric test, namely paired t-test if the data distribution is normal or non-parametric test, namely the Mann-Whitney test if the data distribution is not normal. Data were analyzed by SPSS 24.

Result: From a total sample of 26 patients in this study, there was no significant difference in serum vitamin D in patients with endometriosis (22.83 (5.00 – 40.00)) and non-endometriosis (30.11 (10.40-76.10).)), but the mean serum vitamin D level in endometriosis patients was lower. Follicular fluid vitamin D levels in patients with endometriosis (15.33 (4.50-36.32)) and non-endometriosis (23.64 (4.98-60.22)) were not significantly different ($P>0.05$). Serum zink levels in patients with endometriosis (75.23 ± 11.58) and non-endometriosis (79.46 ± 12.09) were not significantly different ($P>0.05$). Zink concentration in follicular fluid did not show a significant difference between endometriosis patients (39.00 (22.00 – 49.00)) and without endometriosis (51.00 (19.00-95.00)) ($P>0.05$).

Conclusion: There was no significant difference between the levels of vitamin D and serum zink and follicular fluid in patients with endometriosis and non-endometriosis.