

Endometrial Vascular Endothelial Growth Factor as a Marker of Endometrial Receptivity

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SUMMARY: Endometrial receptivity is an important issue to examine as it may share in a lot of obstetric complications as recurrent abortion, unexplained infertility and recurrent implantation failure. Non invasive and invasive measures have been examined to assess endometrial receptivity, we examined endometrial vascular endothelial growth factor (VEGF) and its relation to endometrial receptivity in recurrent pregnancy loss patients. This descriptive observational (case control) study was conducted at obstetrics, gynecology and clinical pathology departments-Kafr Elsheikh University hospital during the period from January 2022 to July 2022 included 50 women with history of RPL and 50 age-matched normal fertile female controls. Full history taking, clinical examination were taken from all participants, full investigations to exclude known causes of RPL were done, endometrial VEGF was assessed by an antibody sandwich ELISA kit. A statistically significant difference was found between both groups regarding VEGF which was higher in fertile group. The best cutoff of endometrial VEGF to share as a cause of recurrent pregnancy loss among the studied patients is ≤ 136.712 with area under curve 0.844, sensitivity 84%, specificity 78%, positive predictive value 79.2%, negative predictive value 83%, accuracy 81% ($p < 0.001$). Endometrial VEGF can be used as a marker of endometrial receptivity and may be linked to be a cause of recurrent unexplained pregnancy loss.

RESUMEN: La receptividad endometrial es un tema importante a examinar, ya que puede participar en muchas complicaciones obstétricas como el aborto recurrente, la infertilidad inexplicada y la falla recurrente de implantación. Se han examinado medidas no invasivas e invasivas para evaluar la receptividad endometrial, examinamos el factor de crecimiento endotelial vascular endometrial (VEGF) y su relación con la receptividad endometrial en pacientes con pérdidas recurrentes de embarazo. Este estudio observacional descriptivo (casos y controles) se llevó a cabo en los departamentos de obstetricia, ginecología y patología clínica del hospital universitario Kafr Elsheikh durante el período comprendido entre enero de 2022 y julio de 2022 e incluyó a 50 mujeres con antecedentes de RPL y 50 controles femeninos fértiles normales de la misma edad. Se realizó un historial completo, se realizó un examen clínico de todas las participantes, se realizaron investigaciones completas para excluir las causas conocidas de RPL, se evaluó el VEGF endometrial mediante un kit ELISA de sándwich de anticuerpos. Se encontró una diferencia estadísticamente significativa entre ambos grupos con respecto al VEGF que fue mayor en el grupo fértil. El mejor punto de corte de VEGF endometrial para compartir como causa de pérdida recurrente del embarazo entre las pacientes estudiadas es ≤ 136.712 con área bajo la curva 0.844, sensibilidad 84%, especificidad 78%, valor predictivo positivo 79.2%, valor predictivo negativo 83%, exactitud 81% ($p < 0.001$). El VEGF endometrial se puede utilizar como un marcador de la receptividad endometrial y se puede relacionar con una causa de pérdida de embarazo recurrente e inexplicable.

KEY WORDS: recurrent pregnancy loss, RPL, vascular endothelial growth factor, VEGF.

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