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学位の種類	博士 (医学)
報告番号	甲第1506号
学位記番号	第1077号
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授与年月日	平成 28年 3月 25日
学位論文の題名	Role of Indoleamine 2,3-Dioxygenase and Tryptophan 2,3-Dioxygenase in Patients with Recurrent Miscarriage (反復流産患者における IDO と TDO の存在と意義)  American Journal of Reproductive Immunology , 2015 (accepted)
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## Role of Indoleamine 2,3-Dioxygenase and Tryptophan 2,3-Dioxygenase in Patients with Recurrent Miscarriage

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An indoleamine 2,3-dioxygenase (IDO) and a tryptophan 2,3-dioxygenase (TDO) lead to dysfunction of T cell and immunological tolerance between fetus and mother in early pregnancy. We investigated the role of IDO and TDO in patients with recurrent miscarriage.

Cervical mucus, decidua, and villi were surgically collected from patients with recurrent miscarriage from April 2010 to March 2013. Samples of cervical mucus were divided into two groups: the delivery group and the miscarriage group. The samples of cervical mucus in the miscarried group and tissue of villi and decidua were divided into normal chromosome group (normal chromosome analysis of villi) and abnormal chromosome group (abnormal chromosome analysis of villi). We performed immunohistochemistry, SDS-PAGE, and Western Blot analysis and measured the activity of IDO and TDO.

The activity of IDO and TDO in cervical mucus was not significantly different between the delivery group and the miscarriage group, and between the normal chromosome group and abnormal chromosome group. The expression of TDO in villi and decidua was not significantly different between the normal chromosome group and the abnormal chromosome group. The activity of IDO and TDO in villi and decidua was not significantly different between the normal chromosome group and the abnormal chromosome group. The expression of IDO in villi was significantly higher in the normal chromosome group than in the abnormal chromosome group.

Our results suggest that the difference of expression of IDO and dysfunctional activation of IDO in villi may play an important role in unexplained recurrent miscarriage.