

Reproductive effects of endometriosis in the spontaneous abortion model of CBA/J×DBA/2 mice

Abstract ID : 2526

Submitted by : Louis MARCELLIN the 2017-01-31 15:05:31

Category : SEUD CONGRESS 2

Typology : Communication orale / Oral communication

Status : Validated

Authorisation to disclose : Yes/Oui

Objective: To evaluate the effect of ectopic endometrial tissue on the spontaneous abortion model of CBA×DBA mice. Methods: Using the spontaneous abortion model of CBA×DBA mice, female CBA were implanted with uni and bilateral CBA donor horns sutured to the parietal peritoneum before gestation. Fifteen days after surgery, CBA female mice were paired with DBA males and checked the following morning for vaginal plugs. On day 15 of pregnancy, uteri were removed and the percentage of abortions, the number of fetus and the fetus weight were compared between implanted mice and controls. Placental expression of IL6, TGF α , INF γ , IL1b, NCAM and Foxp3 were analysed by RTqPCR. Expression were validated with immunohistochemistry.

Result: In case of bilateral implant, the number of fetal resorption was significantly increased (n = 5, 8.1% vs n= 19, 31,1 %, p = 0.02), the mean number of fetus was significantly decreased (p<0.05). Mean fetus weight was decreased in case of unilateral implant (p <0.05) and in case of bilateral implant (p<0.001). Placental cytokine profile expression was deregulated in implanted mice.

Conclusion: Peritoneal implant of uterine horn in pregnant CBA×DBA mice model impaired, with a dose effect, pregnancy outcome with increased resorption, lower fetus and lower fetal weight. This was associated with placental deregulation of expression of cytokines. Peritoneal implant of uterine horn in pregnant CBA×DBA mice is an effective model to study endometriosis during pregnancy.

Keywords : Mouse model pregnancy endometriosis

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