

论著

自发性流产小鼠模型主动脉旁淋巴结CD45+CD86+细胞亚群分析

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摘要 目的: 检测主动脉旁淋巴结(PLN)CD45+CD86+细胞, 用于间接分析小鼠母-胎界面局部免疫状况。方法: CBA/J×DBA/2、未孕CBA/J雌鼠和CBA/J×BALB/c小鼠分别作为自发性流产模型(A组)、未孕对照(N组)和生育力正常对照(F组)。采用流式细胞术检测CD45+CD86+细胞在CD45+细胞中的百分率(简称CD45+CD86+百分率)和这些细胞的绝对数, 其中单个核细胞从孕5.5、9.5和13.5 d小鼠PLN和孕13.5 d胎盘分离获得。为鉴定CD86+细胞所属类型, 采用CD3、CD19和DX5分别作为T细胞、B细胞和NK细胞特异性标志物进行流式细胞检测。结果: A组胚胎吸收率和绝对数(29.3%, 1.8±1.0)均显著高于F组(4.8%, 0.3±0.5, P<0.01)。相应地, A组孕13.5 d PLN CD45+CD86+细胞百分率和绝对数也均显著高于F组(分别为27.5%±14.0% vs 12.3%±7.1%和1 362±687 vs 615±353, P<0.01)。未孕CBA/J雌鼠PLN CD45+CD86+百分率为7.5%, 与孕5.5 d A组小鼠相近(10.6%), 至孕9.5 d时显著升高至23.9%(与未孕鼠相比, P<0.01; 与孕5.5 d小鼠相比, P<0.05), 并保持高水平直至13.5 d(27.5%)。相反, 在CBA/J×BALB/c小鼠孕期末观察到这种趋势。结论: CBA/J×DBA/2小鼠流产开始发生于孕9.5 d, 此时CD45+CD86+细胞数增多, 提示这些细胞与胚胎吸收相关。从PLN中分离淋巴细胞进行表型分析, 有助于间接评价母-胎界面局部免疫状况。

关键词 [流产](#); [动物模型](#); [淋巴结](#); [淋巴细胞](#)

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CD45+CD86+ cells isolated from para-aortic lymph nodes in a murine abortion-prone model

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Abstract

AIM: To address whether the analysis of CD45+CD86+ cells isolated from para-aortic lymph nodes (PLNs) is valuable in assessment of the status of local immunity at the feto-maternal interface. METHODS: CBA/J×DBA/2, virgin CBA/J, and CBA/J×BALB/c mice were used as an abortion-prone model (group A), non-pregnant controls (group N), and fertile controls (group F), respectively. The percentage of CD45+CD86+ cell in the CD45+ cell group (CD45+CD86+ percentage for short) and the absolute number of these cells were determined with flow cytometry (FCM), using mononuclear cells isolated from PLNs collected on day 5.5, 9.5, and 13.5 of gestation, respectively, and mononuclear cells from placentas on day 13.5 of gestation. To clarify the identity of these CD86+ cells, FCM was also performed with CD3, CD19 and DX5 as markers for T cells, B cells, and NK cells, respectively. RESULTS: Both resorption rate and absolute number of resorption were significantly higher in group A (29.3%, 1.8±1.0) than those in group F (4.8%, 0.3±0.5, P<0.01, respectively). Similarly, both cell percentage and absolute number of CD45+CD86+ cells in PLNs collected on day 13.5 of gestation were significantly higher in group A than that in group F (27.5%±14.0% vs 12.3%±7.1%, and 1 362±687 vs 615±353, P<0.01, respectively). The CD45+CD86+ percentage was around 7.5% in virgin CBA/J mice, similar to the 10.6% in CBA/J×DBA/2 mice on day 5.5 of gestation, but increased dramatically to 23.9% by day 9.5 (P<0.01 vs virgin mice and P<0.05 vs CBA/J×DBA/2 mice on day 5.5), and remained at a higher level (27.5%) until day 13.5. However, this trend was not observed in group F during pregnancy. CONCLUSIONS: The increased CD45+CD86+ percentage on day 9.5, when resorption begins, may support the assumption that CD45+CD86+ cells play a role in the course of embryo resorption. Lymphocyte phenotypic analysis in the lymph nodes that drain the pregnant uterus may be helpful to assess the status of

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local immunity at the feto-maternal interface.

Key words [Abortion](#) [Animal model](#) [Lymph nodes](#) [Lymphocytes](#)

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