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Effect of %L¿GREDFWHULXP EUHYH feeding pattern and delivery mode on perennial allergic rhinitis mice

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Background: Di erent delivery modes may a ect the susceptibility to allergic diseases. It is still unknown whether early intervention with probiotics would counteract this e ect.

Objectives: e e ect of di erent delivery modes on immune status and nasal symptoms was investigated on established allergic rhinitis (AR) mouse model. In addition, the immunoregulatory e ects and mechanisms of di erent feeding manners with Bi dobacterium breve were examined.

Methods: Live lyophilized B. breve was orally administered to BALB/c mice born via vaginal delivery (VD) or cesarean delivery (CD) for 8 consecutive weeks, a er which they were sensitized by ovalbumin (OVA) to establish experimental AR. Nasal symptoms, serum immunoglobulins, cytokines, splenic percentages of CD4+CD25+Foxp3+ regulatory T(Treg) cells and nasal eosinophil in ltration were evaluated.

Results: Compared with VD mice, mice delivered via CD demonstrated more serious nasal symptoms, higher concentrations of OVA-speci c immunoglobulin (Ig) E, more nasal eosinophil and lower percentages of splenic CD4+CD25+Foxp3+Treg cells a er establishing experimental AR. ese parameters were reversed by administering B. breve shortly a er birth. However, the e ect of B. breve did not di er between di erent delivery modes.

Conclusion: CD aggravates the nasal symptoms of AR mice compared to VD. is is the rst report that oral administration of B. breve shortly a er birth can signi cantly alleviate the symptoms of AR mice born via both deliveries, probably via activation of the regulatory capacity of CD4+CD25+Foxp3+Treg cells.

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