

EARLY LIFE EMULSIFIER EXPOSURE INDUCES DYSBIOSIS AND DEFECTIVE INTESTINAL BARRIER IN THE OFFSPRING

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Poster

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Maternal exposure to polysorbate 80 during gestation and lactation is associated with altered gut microbiota, intestinal barrier dysfunction, and inflammation in second and third generation offspring in a mouse model.

KEY POINTS

- Second and third generation offspring of mice exposed to 1% polysorbate 80 showed shorter intestinal villi and colonic glands compared to controls.
- Polysorbate 80 exposure was associated with altered gut microbiota composition, including reduced abundance of Mucispirillum, in both second and third generation offspring.
- Both generations of exposed offspring exhibited higher expression of inflammatory cytokines IL-6 and IL-1 β .
- Polysorbate 80 exposure was linked to reduced colonic goblet cells, lower expression of tight junction proteins ZO-1 and claudin-3, lower MUC2 expression, and reduced secretory IgA in both generations.
- This experimental study in C57bl/6 mice suggests transgenerational effects of maternal polysorbate 80 consumption on offspring intestinal health and microbiota development.

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