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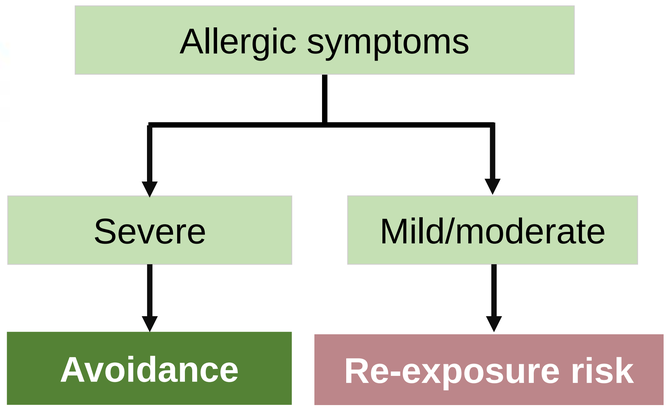
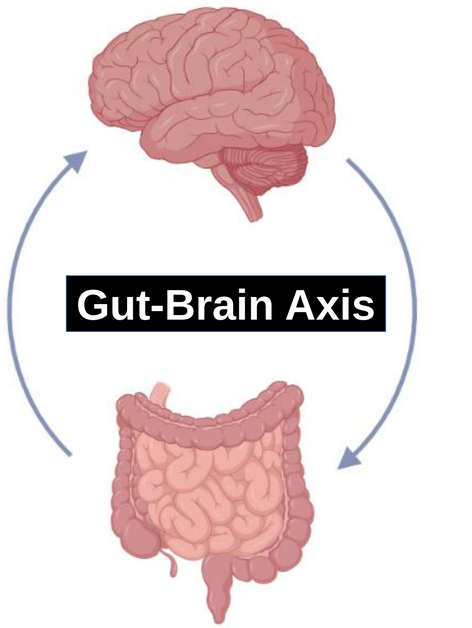
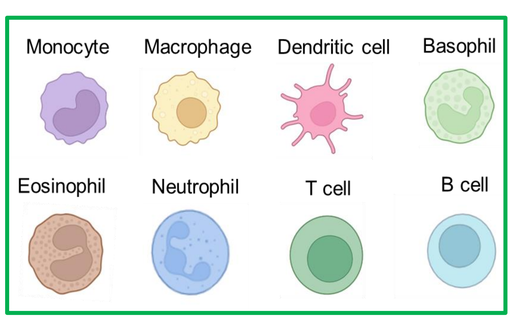


Cow's milk allergy (CMA)

- CMA has been associated with neurological disorders.
- How allergic inflammatory signals from the gut reach the brain is unclear.



Immune cells in the gut



Hypothesis

Food allergens can still activate gut immune cells in asymptomatic individuals and influence their brain via the gut-brain axis and cause neuroinflammation.

Objective

Examine changes in the number and phenotypes of immune cells in the intestines of CMA.

Method

- Mouse model: Male C57BL/6J.
- Sensitized to either vehicle or BLG for 5 weeks and fed a whey-protein diet for 2 weeks.
- Intestinal tissues were collected and stained for different immune cell markers.

Results

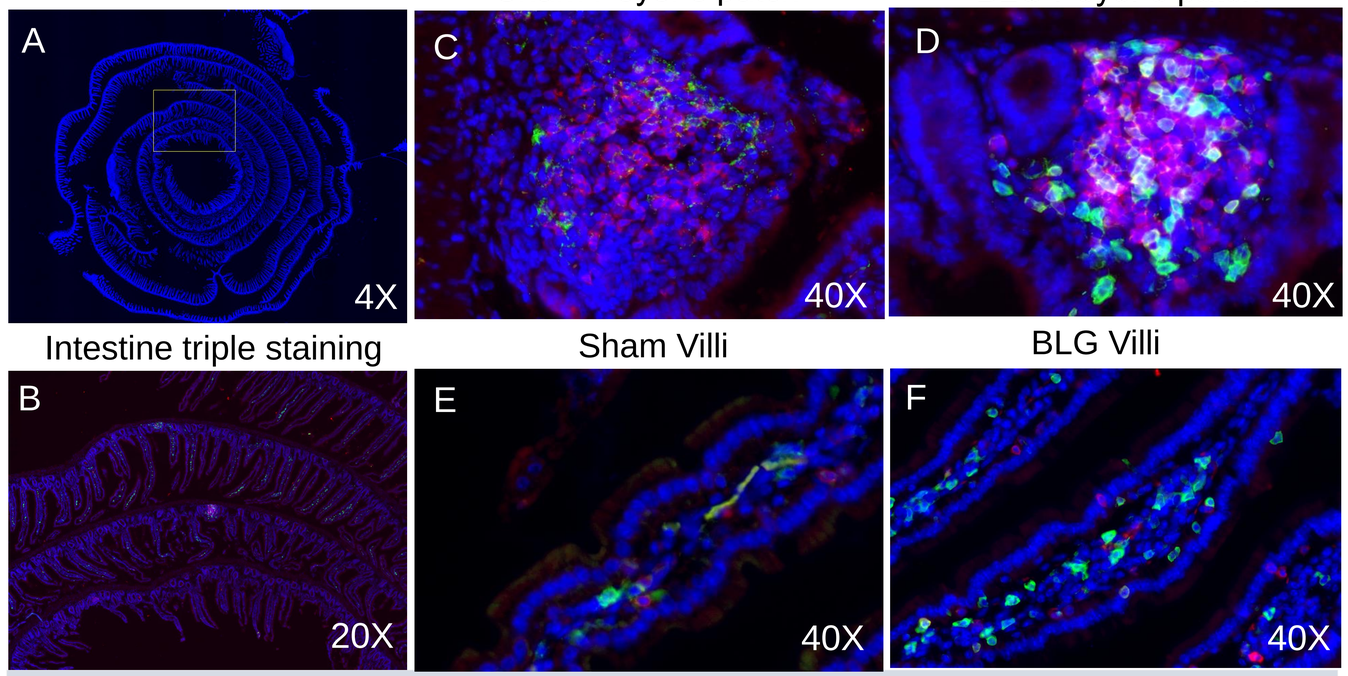


Figure 1: Increased number of immune cells in BLG-sensitized mouse intestine. (**A**) DAPI nucleus staining of intestine "Swiss roll" (4X). (**B**) Triple staining for total immune cells, CD45 (green), B lymphocytes, B220 (red) and nucleus staining, DAPI (blue) of BLG-sensitized mouse intestine (20X); Peyer's patches of (**C**) sham and (**D**) BLG mice (40X); villi of (**E**) sham and (**F**) BLG mice (40X).

Conclusion

An increased number of intestinal immune cells, particularly B lymphocytes, were observed in BLG-sensitized mouse intestines.

Significance

Examining the role of immune cells in the gut-brain axis may provide insight into CMA-associated neuroinflammation and behavioral changes.

Acknowledgment

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