

Re-introducing immune-tolerance to gluten: Does that work for treatment?

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Presentation

Immunology

Nurses

Small Intestine & Nutrition

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The speaker presented evidence that immune tolerance can be induced in coeliac disease through nanoparticle-based immunotherapy, with his group's study showing gluten-specific T cells adopting regulatory or exhausted phenotypes at higher doses.

KEY POINTS

- The speaker's nanoparticle immunotherapy study (which won best abstract) showed that at all doses tested, gluten-specific T cells developed an immunoregulatory or exhausted phenotype measured by Tigit, PD-1, and CD127, with higher doses inducing putative regulatory T cells in peripheral blood.
- TAK-101, nanoparticles coupled with complete gluten targeting spleen, bone marrow, and lymph nodes, induced non-response and histological protection in published studies and remains in ongoing development.
- Nexvax, involving intradermal or subcutaneous injection of gliadin peptides, showed rapid interleukin-2 response and some signs of mucosal healing but was terminated by investigators.
- Single cell analysis revealed many T-regulatory cells in the coeliac lesion but they do not appear to be gluten-specific, and the speaker's group has not found gluten-specific regulatory T cells in healthy individuals.
- The speaker stated that approximately one in five adult coeliac patients from the Hunt study developed disease in adulthood rather than childhood.
- The speaker expressed the view that the immune response to gluten can quite likely be attenuated or switched off, though he does not see Larazotide acetate as a viable treatment option.

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