

IMPACT OF TRANSGLUTAMINASE 2 INHIBITOR ZED1227 ON SYSTEMIC LIPIDOMIC RESPONSES IN CELIAC DISEASE: A GLUTEN CHALLENGE STUDY

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Lipidomic profiling in 47 treated celiac disease patients undergoing gluten challenge showed that ZED1227, a transglutaminase 2 inhibitor, attenuates gluten-induced lipid alterations and preserves kidney function.

KEY POINTS

- In the placebo group, 46 lipids were differentially expressed after gluten challenge, compared to only 6 lipids in the ZED1227 group (100mg daily oral dose, n=28 drug vs n=19 placebo).
- Glomerular filtration rate and plasma creatinine decreased significantly with gluten challenge in the placebo group, but kidney function was restored by ZED1227.
- Alterations in medium-chain fatty acylcarnitines correlated with kidney function changes and may serve as early biomarkers for systemic effects of gluten ingestion in celiac disease patients.
- The differential lipidomic profiles between ZED1227 and placebo groups suggest that the drug attenuates gluten-induced lipidomic alterations, supporting its potential role beyond intestinal symptom management.

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