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Summary

TRANILAST TREATMENT PREVENTS CHRONIC RADIATION-INDUCED COLITIS IN RATS BY INHIBITING MAST CELLS INFILTRATION

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Colorectal

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Pre-treatment with tranilast, a mast cell inhibitor, reduced inflammation and mast cell infiltration in a rat model of radiation-induced colitis.

KEY POINTS

- In a study of 23 rats, tranilast pre-treatment (100 mg/kg for 10 days) before pelvic irradiation (20 gray) significantly reduced total inflammation scores compared to irradiation alone ($p=0.02$).
- Tranilast-treated rats had significantly fewer infiltrating mast cells (6.0±6.02) compared to irradiation-only rats (27.5±18.40, $p=0.034$) ten weeks after irradiation.
- Pre-treatment reduced specific pathological features including epithelial atypia, vascular sclerosis, and colitis cystica profunda ($p<0.05$ for each).
- MMP-9-positive cells were significantly lower in tranilast-treated rats (10.25±8.45) versus irradiation-only rats (23.67±19.00, $p<0.05$), with MMP-9 strongly correlating with inflammation scores ($r=0.6$).
- This experimental study may inform future research on preventive strategies for radiation-induced colitis in patients undergoing pelvic radiotherapy.

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