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Summary

LONG TERM IMPACT OF MECHANICAL AND ORAL ANTIBIOTIC BOWEL PREPARATION ON MUCOSAL AND FECAL MICROBIOTA IN RECTAL ANTERIOR RESECTION: MOBILE2 TRIAL RESULTS

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Endoscopy | Surgery | Mechanisms & Personalised Medicine | Colorectal

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Microbiota analysis from the MOBILE2 trial shows that oral antibiotics plus mechanical bowel preparation before rectal resection suppressed mucosa-associated Porphyromonas and Peptoniphilus, genera linked to anastomotic leak, and caused long-term but minor microbiota shifts without increasing antibiotic resistance genes.

KEY POINTS

- In 194 patients undergoing rectal resection, those receiving mechanical bowel preparation and oral antibiotics (MOABP) had reduced postoperative complications, especially anastomotic leaks, compared to mechanical bowel preparation alone.
- Patients with anastomotic leak had higher mucosal abundance of Peptoniphilus and Porphyromonas, and Porphyromonas was suppressed by oral antibiotics in the MOABP group, potentially explaining the clinical benefit.
- In the MOABP group, mucosal bacterial richness and alpha diversity remained decreased at 12 months, while total bacterial quantity recovered by 6 months.
- Fecal microbiota composition changed long-term, but overall functional pathways did not differ significantly at 12 months between groups.
- Antibiotic resistance gene load, richness, and beta diversity did not change over time and were comparable between groups.
- The presenter stated that oral antibiotics should be considered as standard treatment in elective rectal resection, with the clinical benefits outweighing the minor long-term microbiota effects observed.

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