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Title	Banana Mash Test – A Novel Technique Of Assessing Bowel Function After Colostomy
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Introduction:

Stoma formation, including colostomy and ileostomy, is often performed as part of surgical interventions for colorectal diseases and congenital anomalies. The restoration of bowel continuity through stoma reversal is a significant consideration in patient management.

Postoperative evaluation of bowel function is crucial for patients who have undergone stoma formation, particularly in the context of potential stoma reversal.

However, the decision to proceed with stoma closure requires a comprehensive assessment of bowel function to predict postoperative outcomes and timing of stoma closure and ensure patient safety.

Materials & Methods:

Banana mash test is a practical, low-cost diagnostic procedure used to assess anorectal function, particularly in patients with defunctioning stomas or those undergoing stoma reversal.

This test simulates the consistency and volume of stool, providing a more accurate representation of post-reversal anorectal function and intestinal peristaltic function compared to traditional contrast studies.

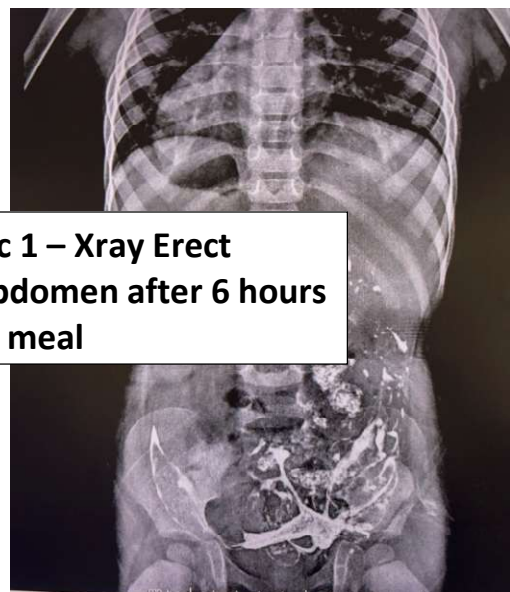
Procedure:

1. Saline wash is given in distal loop to remove any fecoma and residual content and to confirm continuity of bowel
2. Banana is mashed and mixed with small quantity of barium
3. This mixture is injected through a wide bore feeding tube into the distal stoma
4. Time is noted
5. Patient is observed for evacuation of injected content
6. Xray Erect Abdomen is taken 6 hours later
7. If patient has evacuated all the content, no further evacuation is necessary
8. If complete evacuation has not occurred, X Ray is repeated after 12 hours
9. Progress of radio opaque mash is noted
10. Complete evacuation of mash is considered adequate bowel function
11. If contrast is retained, the level is observed
12. Test is repeated after 48 hours for confirmation
13. Patients who evacuate all the content are taken for ileostomy closure by standard technique



**Pic 1 – Xray Erect
Abdomen after 6 hours
of meal**

Results
This

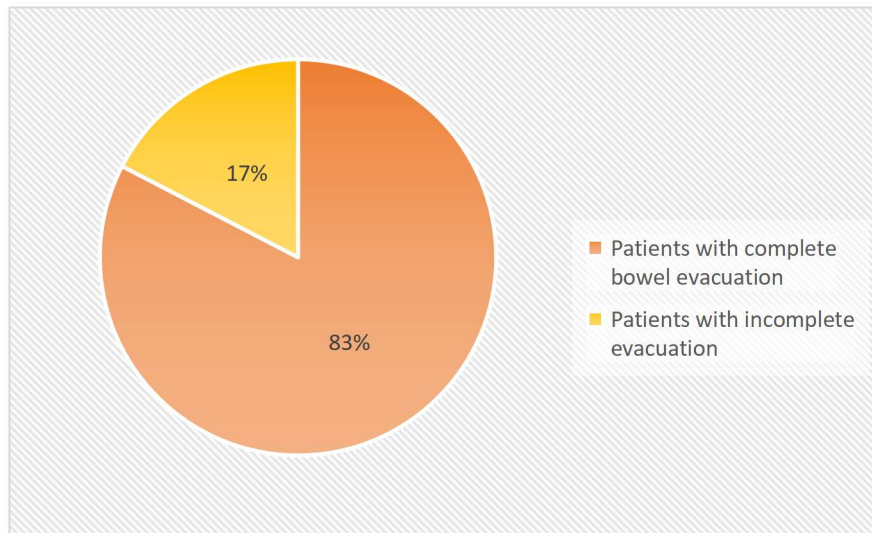


**Pic 2 – X
Abdomen
hours of**

procedure has been performed in 23 patients with ileostomy/colostomy done by other surgeons with unknown indications

19 patients were able to evacuate within 6 hours and underwent stoma closure with no complication

4 patients did not evacuate and were observed to retain mash at the level of rectosigmoid junction



Discussion:

Normally a contrast enema is done before patient undergoes laparotomy to diagnose the cause of bowel obstruction

But sometimes in emergency, this step is not performed by all surgeons.

When such patients come to pediatric surgeon for subsequent intervention, they may not know the reason of colostomy.

A defunctioned bowel loop will not show the transition zone between dilated and narrow bowel.

Therefore simple bowel loop cologram is not useful.

This test helps identify patients who have normal functioning distal bowel and can undergo stoma closure.



Pic 3 – Cologram done after ileostomy showing normal bowel Contrast going upto anal verge with no transistion zone

Those who do not evacuate the mash are subjected to rectal biopsy and frozen section during possible pull through for aganglionic colon.
 Interpretation for aganglionic colon is technically demanding.
 A full thickness rectal biopsy carries risk and needs general anaesthesia.
 Mucosal biopsy interpretation is not available in many hospitals.

Conclusion:

Banana mash test is a valuable tool in evaluating anorectal function in patients with defunctioning stomas or those considering stoma reversal in patients who have undergone stoma elsewhere.

Hypothyroidism, toxemia, sepsis also present with paralytic ileus; and surgeons may sometimes create stoma without reason.

Stoma closure not only restores body image and quality of life, but in India, where long-term stoma care support can be limited and costly, restoration is highly valued.

Stoma closure or definitive reconstruction is hence desired.

While the banana mash test is not a comprehensive assessment of all aspects of anorectal function, its simplicity and ability to test for peristaltic function, cost-effectiveness, and patient-centered approach make it a useful adjunct to other diagnostic methods in the postoperative evaluation process.

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