

Gluteal Based V-Y Flaps are Effective and Efficient for Vaginal Reconstruction

Following Abdominal-Perineal Resection with Partial Vaginectomy

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Background:

Abdominoperineal resection (APR) with >50% partial vaginectomy presents a unique reconstructive challenge. Reconstruction of this defect requires appropriate tissue bulk to support perineal structures and resurface the vaginal wall. Several techniques have been used in reconstruction with some debate concerning the gold standard. We present a case series showing that IGAP V-Y flaps are able to reconstruct posterior vaginectomy defects.

Purpose:

Determine early safety and efficacy of a novel reconstructive method for posterior vaginectomy defects.

Methods:

Single center retrospective review of 8 patients who underwent APR with partial vaginectomy and PRS reconstruction.

Results:

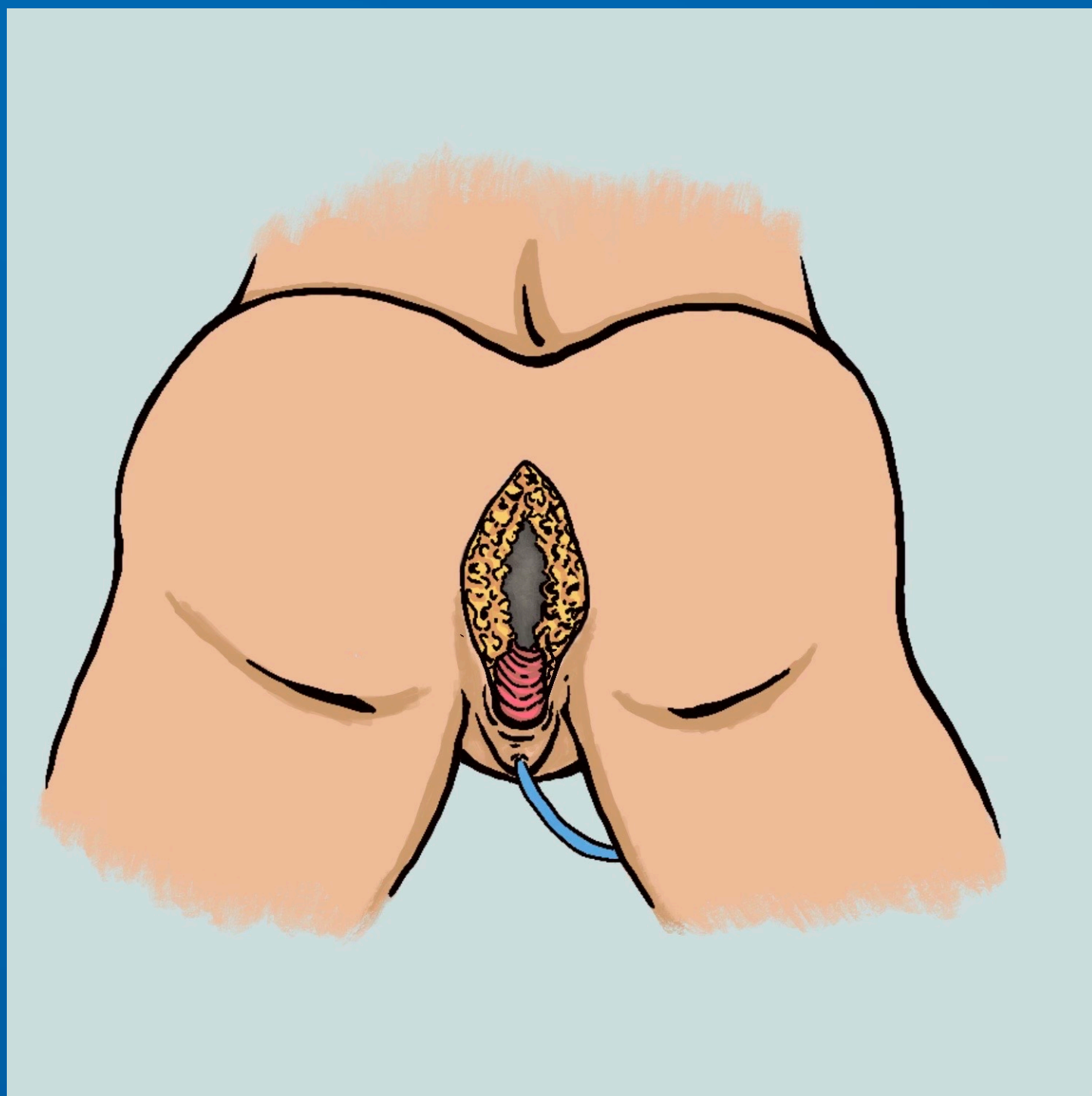
8 patients had posterior vaginal reconstruction. 4 reconstructed using a partially de-epithelialized V-Y gluteal fasciocutaneous flap, 3 with VRAM and one with a myocutaneous gracilis. One V-Y patient was currently smoking. All patients had neoadjuvant chemotherapy (100%) and 7 had neoadjuvant radiotherapy including all V-Y patients. The time of the reconstructive segment was shorter in the V-Y group when compared to the "other flap group" (69±12-min versus 135±16.2-min, p=0.013). 90 day complications had no statistical difference.

Technique:

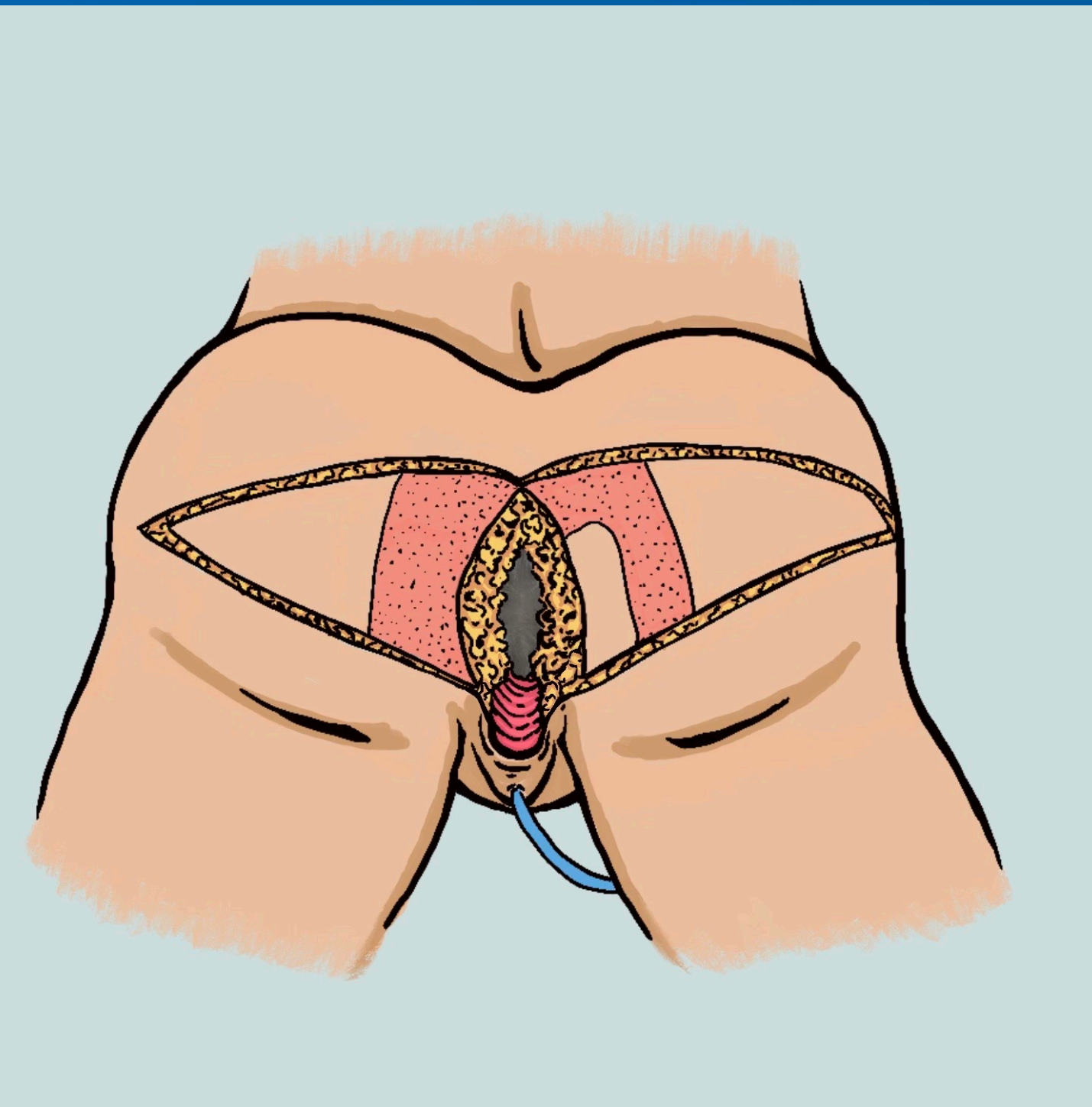
Determined early safety and efficacy of a novel reconstructive method for posterior vaginectomy defects.

Conclusion:

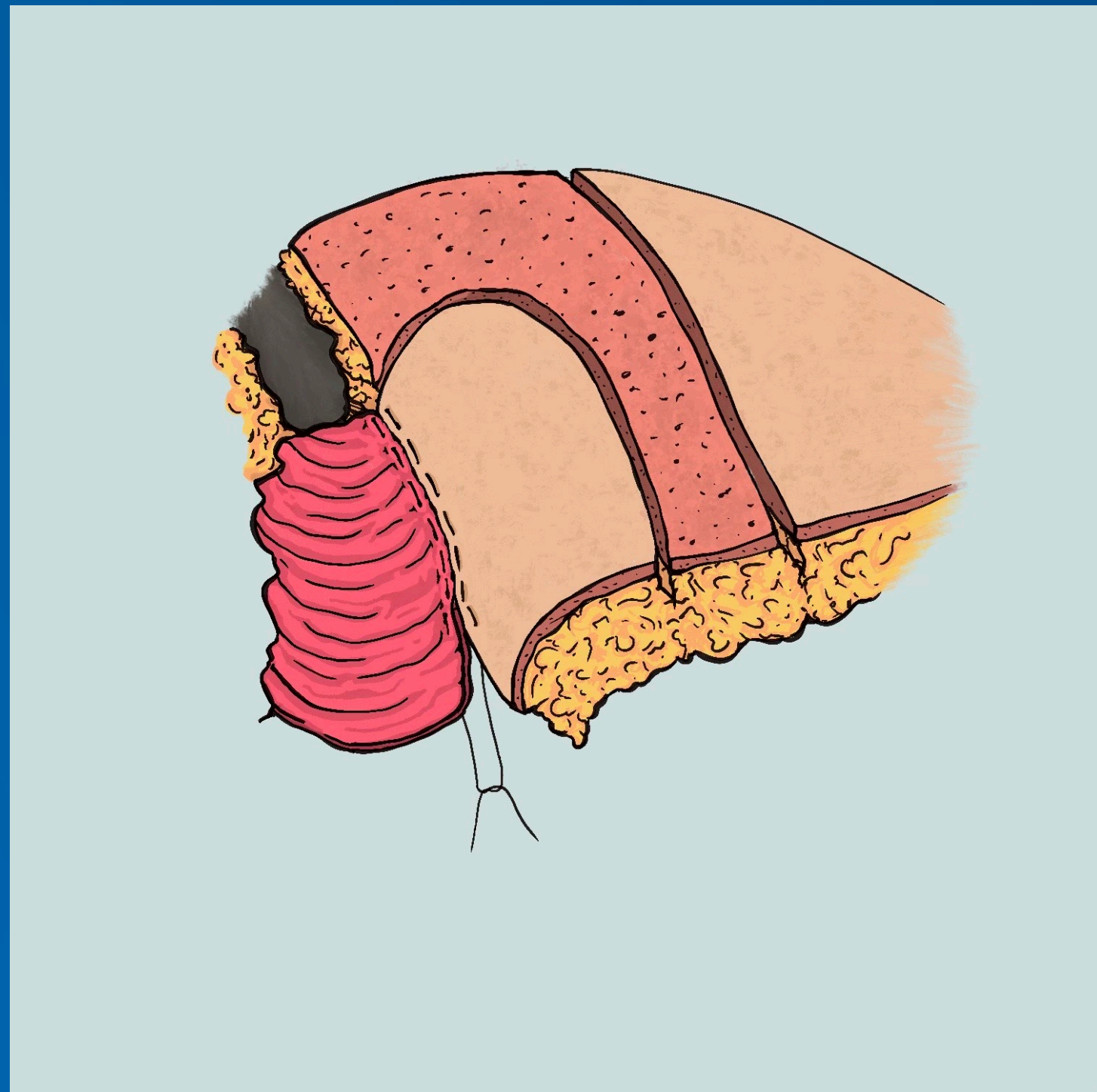
Bilateral V-Y gluteal based fasciocutaneous flaps are a simple, safe, and efficacious way to reconstruct up to 75% posterior vaginal wall defects in patients who have underwent APR.



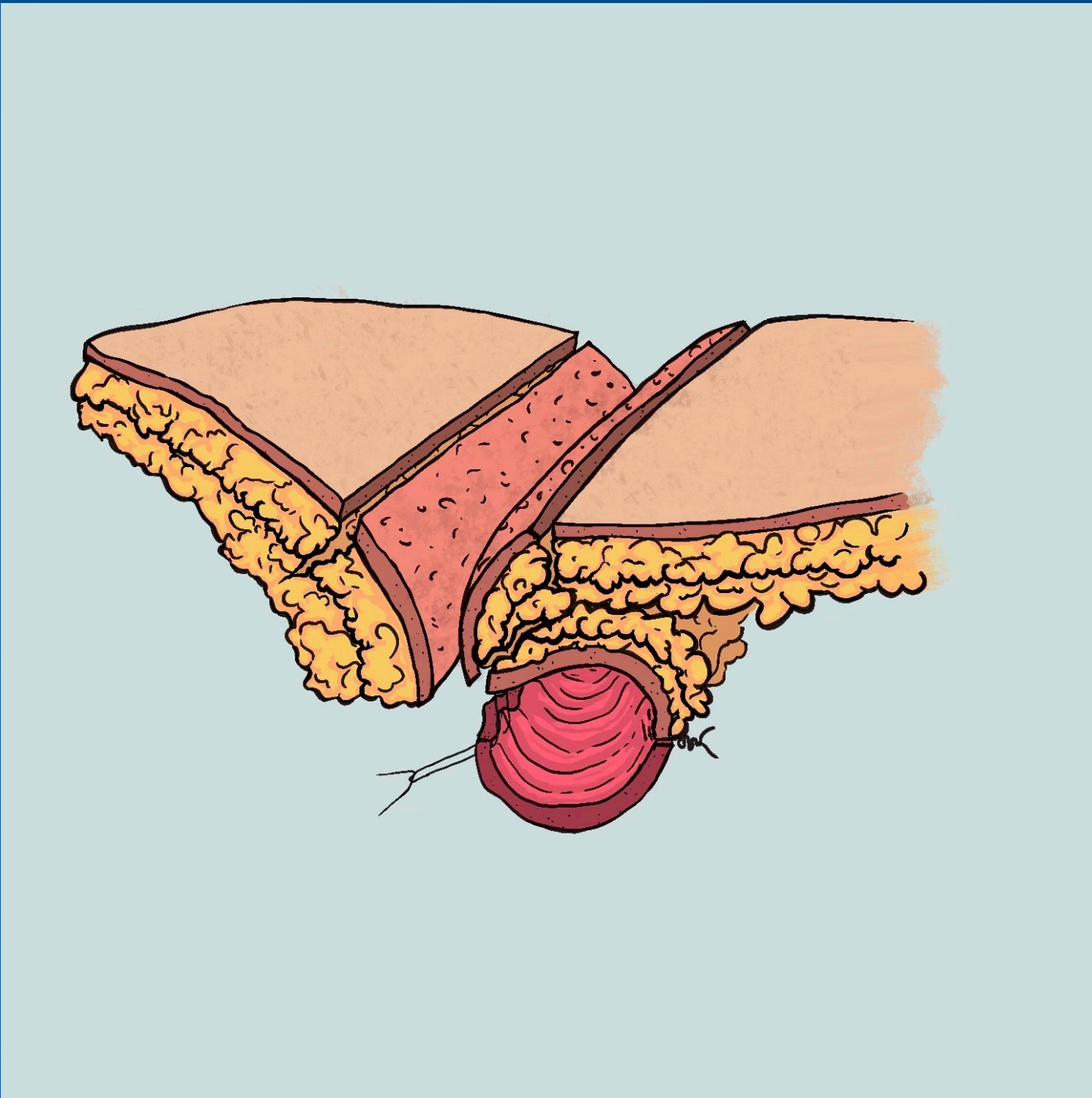
Anal defect following low APR with posterior vaginectomy



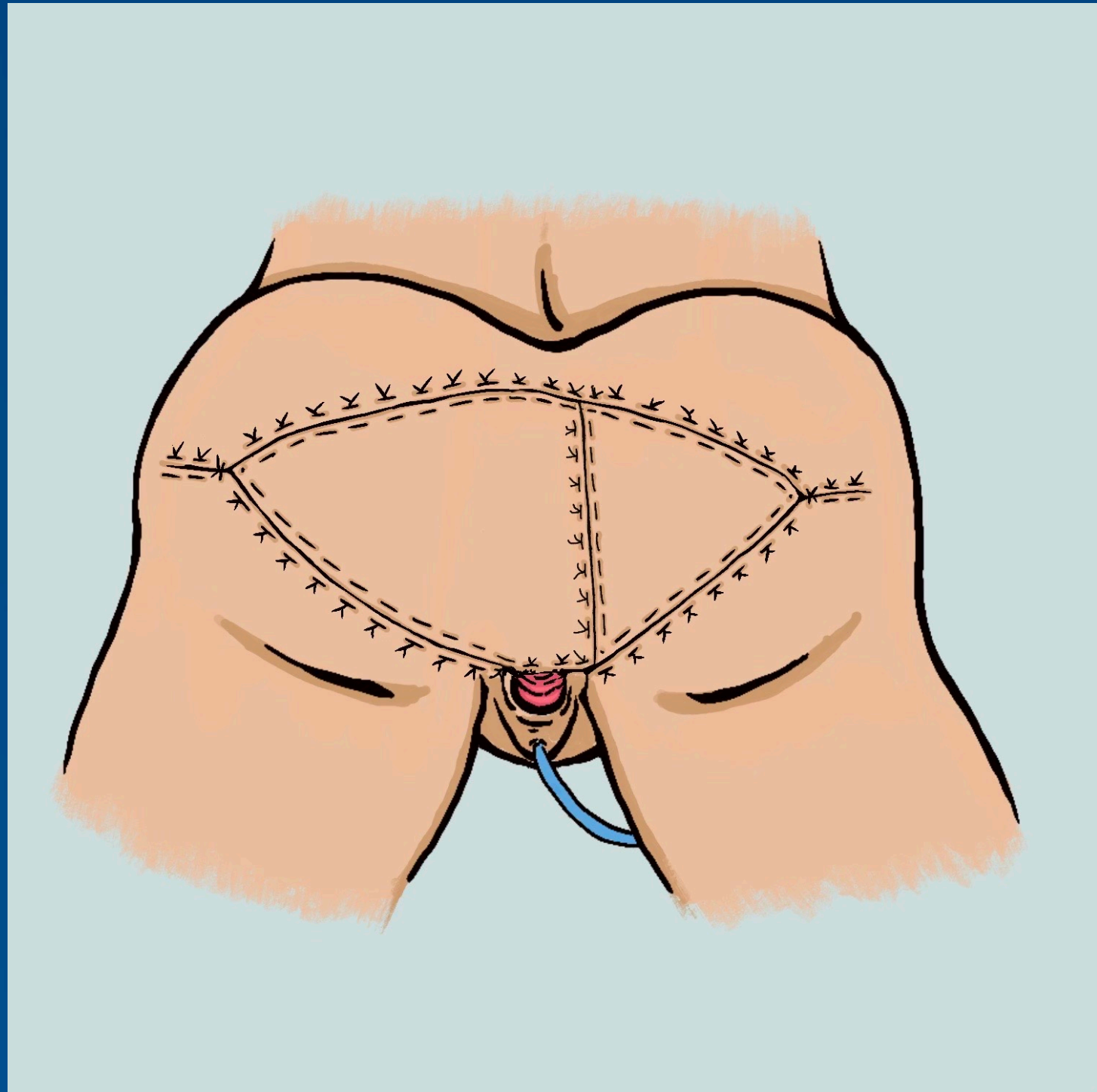
Design of large V-Y fasciocutaneous flaps based on the Inferior Gluteal Artery perforators



Flap is partially de-epithelialized with leading edge skin paddle measured to match the size of the vaginal defect



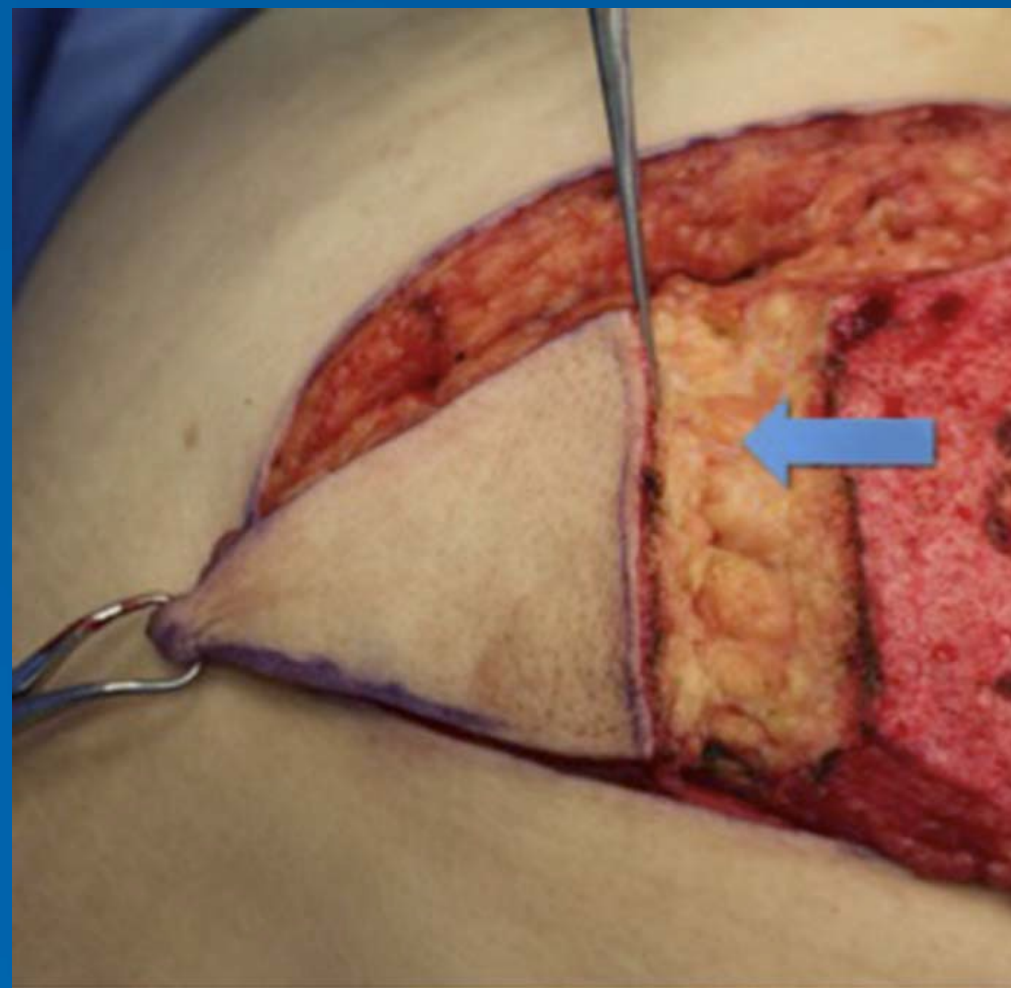
The superficial fascial is scored at the trailing edge of the de-epithelialized portion of the flap to allow increased mobility and dead space obliteration.



Closure with absorbable deep sutures (Scarpa's and dermals) and permanent horizontal mattress sutures



Demonstration of excellent mobility of the fasciocutaneous flaps



Integrity of IGAP perforators is carefully preserved following fascial scoring with direct visualization.



Sufficient tissue laxity for closure in V-Y fashion over drains.

Variables	Other Flaps	V-Y	Total	p-value
APR Reconstructions	4 (50%)	4 (50%)	8 (100%)	-
Age	65.500 ± 6.455	62.500 ± 2.260	64 ± 6.43	0.144
BMI	25.485 ± 9.778	29.105 ± 12.267	27.3 ± 10.45	0.686
Race / Ethnicity				
White / Caucasian	4 (100%)	4 (100%)	8 (100%)	-
ETH	2 (50%)	2 (50%)	4 (50%)	-
DM	1 (25%)	0 (0%)	1 (12.5%)	0.285
CHF	0 (0%)	0 (0%)	0 (0%)	-
DVT	1 (25%)	0 (0%)	1 (12.5%)	0.285
PVD	0 (0%)	0 (0%)	0 (0%)	0.513
Tobacco				
Current	0 (0%)	1 (25%)	1 (12.5%)	-
Former	2 (50%)	2 (50%)	4 (50%)	-
Never	2 (50%)	1 (25%)	3 (37.5%)	-
Previous Abnl. Surgery	3 (75%)	1 (25%)	4 (50%)	0.157
Type of Previous Surgery				0.802
Colostomy	3 (75%)	0 (0%)	3 (37.5%)	-
Hysterectomy	0 (0%)	1 (25%)	1 (12.5%)	-
Neoadjuvant	4 (100%)	4 (100%)	8 (100%)	-
Chemotherapy	3 (75%)	4 (100%)	7 (87.5%)	0.285
Neoadjuvant Radiotherapy	3 (75%)	4 (100%)	7 (87.5%)	0.285
Diagnosis				1.00
Colorectal Cancer	3 (75%)	3 (75%)	6 (75%)	-
Anal Cancer	1 (25%)	1 (25%)	2 (25%)	-
Stage (AJCC)				0.202
II	0 (0%)	2 (50%)	2 (25%)	-
III	3 (75%)	2 (50%)	5 (62.5%)	-
IV	1 (25%)	1 (25%)	2 (25%)	-
Hemoglobin	31.250 ± 6.551	39.687 ± 1.528	34.45 ± 6.51	0.086
Hemoglobin	28.800 ± 34.808	13.500 ± 6.561	22.15 ± 25.97	0.409
Follow up	56.750 ± 80.034	246.25 ± 400.01	151.5 ± 232.5	1.00
Timing for Reconstruction				0.285
One stage	3 (75%)	4 (100%)	7 (87.5%)	-
Two stages	1 (25%)	0 (0%)	1 (12.5%)	-
Drains	4 (100%)	4 (100%)	8 (100%)	-
Surpical time	55.647 ± 9.927	49.750 ± 9.287	56.71 ± 9.1	0.656
ERL	176.250 ± 46.305	131.250 ± 30.04	153.7 ± 32.24	0.420
Adjuvant Chemotherapy	1 (25%)	2 (50%)	3 (37.5%)	0.409
Adjuvant Radiotherapy	0 (0%)	0 (0%)	0 (0%)	-

Complications	Other Flaps	V-Y	Total	p-value
APR Reconstructions	4 (50%)	4 (50%)	8 (100%)	-
SSI	0 (0%)	2 (50%)	2 (25%)	0.102
Abscess	0 (0%)	1 (25%)	1 (12.5%)	0.285
Superficial dehiscence	1 (25%)	2 (50%)	3 (37.5%)	0.465
Full-thickness dehiscence	3 (75%)	4 (100%)	7 (87.5%)	0.285
Delayed Wound Healing	1 (25%)	1 (25%)	2 (25%)	1.00
Partial Flap Loss	1 (25%)	0 (0%)	1 (12.5%)	0.285
Hematoma	1 (25%)	0 (0%)	1 (12.5%)	0.285
Seroma	0 (0%)	0 (0%)	0 (0%)	-
Prolapse	0 (0%)	0 (0%)	0 (0%)	-
Unplanned operations	0 (0%)	0 (0%)	0 (0%)	-

Abdominopelvic reconstructive complications

References:

1. Coombs D.M., et al. The vertical rectus abdominis musculocutaneous flap as a versatile and viable option for perineal reconstruction. www.ncbi.nlm.nih.gov/pmc/articles/PMC4811111/; *Plastic, Reconstructive, and Aesthetic Surg* 2010; **73**: 1924-32.
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Disclosures:

No authors have financial disclosures related to this study.