Mesh rectopexy: the pros

By

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2022

BACKGROUND:

- Rectal prolapse is a protrusion of the rectum through the anus.
- It may be full thickness RP (complete) or just mucosal prolapse (partial).
- Female : male is approximately (10:1)
- The definite etiology is unclear but multiple anatomical factors may initiate the prolapse.
- Classifications:
  - Grade Ⅰ : inner (recto-rectal) intussusception of the rectum proximal to the anal canal.
  - Grade Ⅱ : inner (recto-anal) intussusception into the anal canal.
  - Grade Ⅲ: prolapse of the rectum beyond the anus (external prolapse)

- **Trans abdominal** VS **trans perineal** approaches
- Multiple operations were described for repair
- Controversies exists regarding which is the best approach as well as the best technique.

Symptom	Prevalence
Constipation	25–50 %
Mucous diarrhea	15–35 %
Fecal incontinence	50–75 %
Rectal bleeding	75–100 %
Urinary incontinence	25–30 %
Vaginal vault prolapse	15–30 %
Pain	100 %
Decreased quality of life	100 %

SO

An individualized approach is recommended for every patient, considering age, comorbidity, and the underlying anatomical and functional disorders.


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b

Open versus laparoscopic mesh rectopexy

Surg Today (2005) 35:446–452
DOI 10.1007/s00595-004-2946-7

SURGERY TODAY
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Comparison of Laparoscopic and Open Surgery for Total Rectal Prolapse

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Randomized trial

Randomized clinical trial of laparoscopic *versus* open abdominal rectopexy for rectal prolapse

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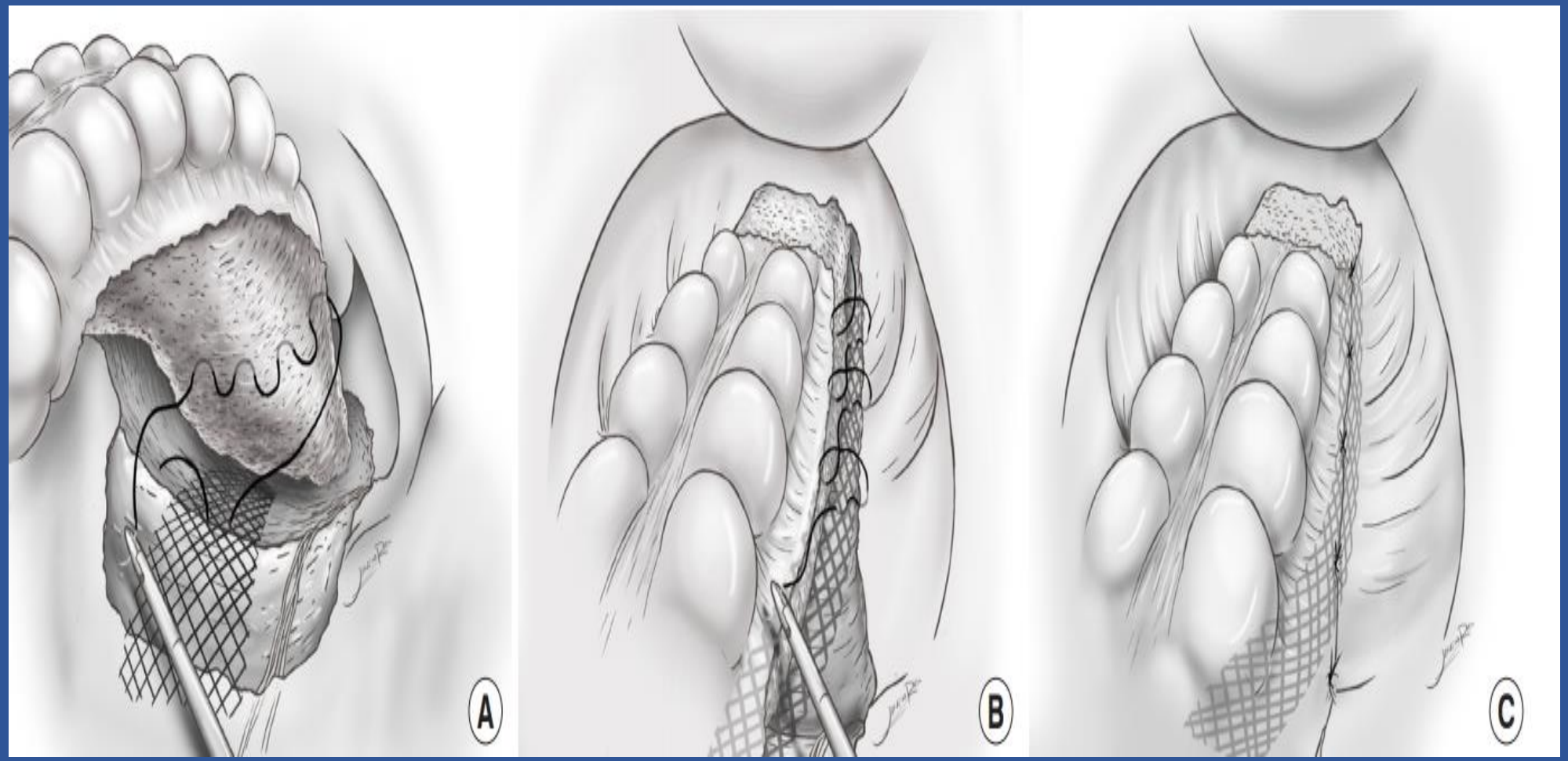
Many short term advantages in favor of laparoscopic surgery.
No SD in recurrence, incontinence or constipation.

posterior versus ventral mesh rectopexy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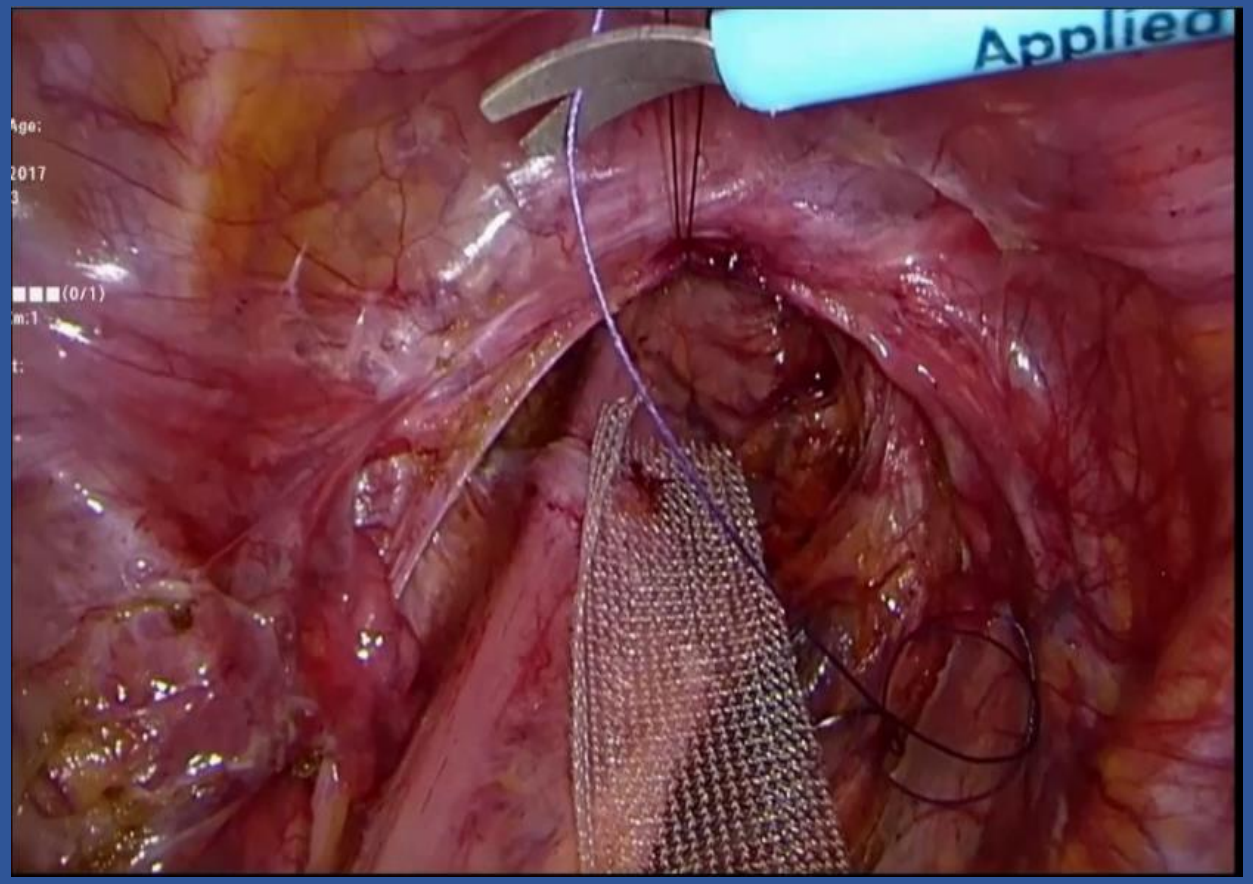
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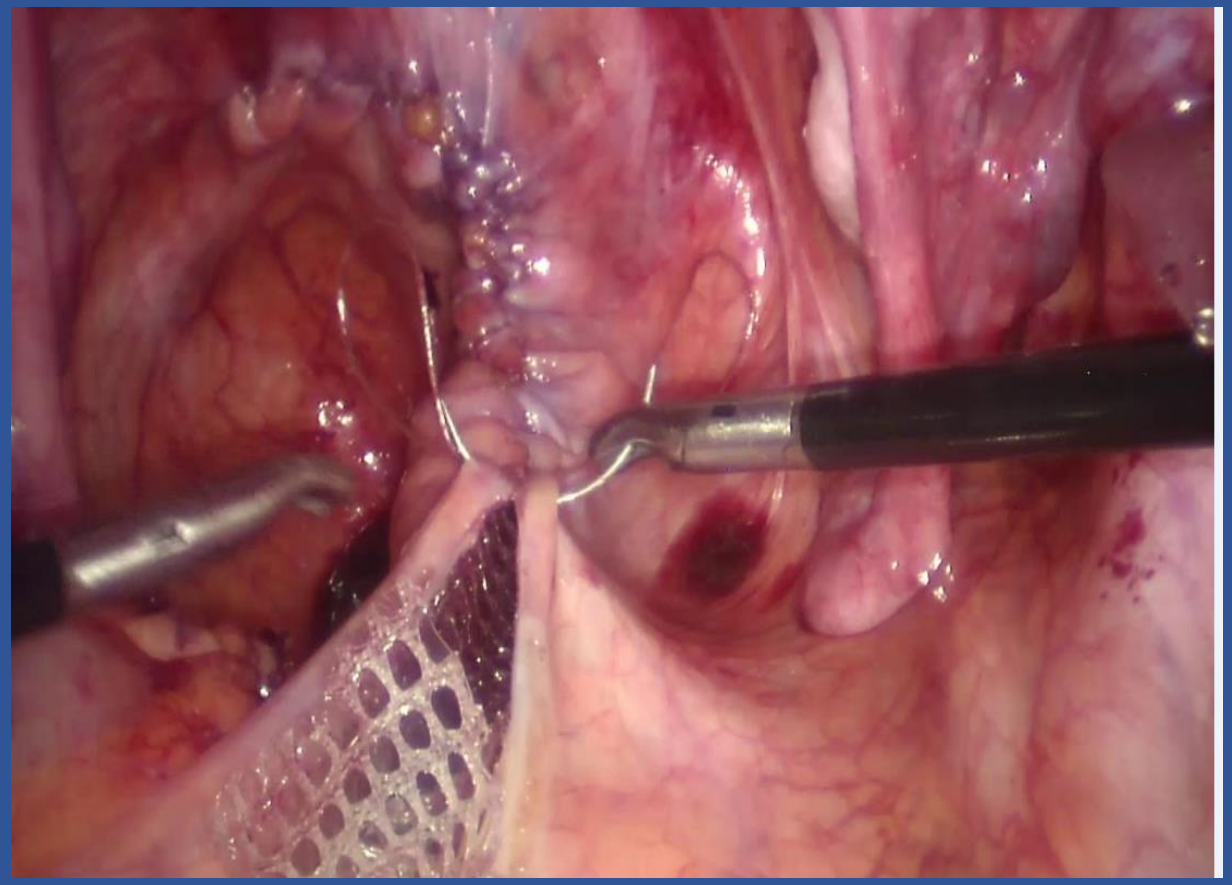

Table 2. Results of Laparoscopic Posterior Mesh Rectopexy for Rectal Prolapse.

Authors	No. of patients	Design	Morbidity (%)	Mortality (%)	Improvement of continence (%)	Improvement of constipation (%)	New onset of constipation (%)	Recurrence No. (%)	Follow-up (month)
Darzi et al. 1995[34]	29	Prospective	10	0	NS	NS	NS	0 (0)	8*
Himpens et al. 1999[35]	37	Prospective	5	0	92	0	29	0 (0)	NS
Zittel et al. 2000[36]	29	Prospective	14	0	77	0	20	1 (4)	22#
Benoist et al. 2001[22]	14	Retrospective	14	0	100	0	44	0 (0)	47*
Dulucq et al. 2007[37]	77	Prospective	4	0	90	36	30	1 (1)	34*
Makineni et al. 2014[38]	17	Prospective	17	0	100	NS	NS	0 (0)	14*
Dyrberg et al. 2015[39]	81	Prospective	20	1	74	65	13	9 (11)	24#
Madbouly et al. 2018[40]	33	Retrospective	12	0	57	48	0	1 (3)	46*
Matsuda et al. 2019[41]	10	Retrospective	0	0	NS	NS	NS	0 (0)	25#

Mortality rates ranged (0-1.2%).
Recurrence rates ranged (0-11%).
Overall improvement in continence (74-100%),
New-onset constipation (5-44%)

- VMR was firstly described by D'Hoore et al., in 2004.
- Anterior dissection only without mobilization of the rectum.
- An autonomic nerve sparing technique.
- The best choice for anterior rectocele, enterocele and intussusception.
- Can be used in concomitant genital prolapse.

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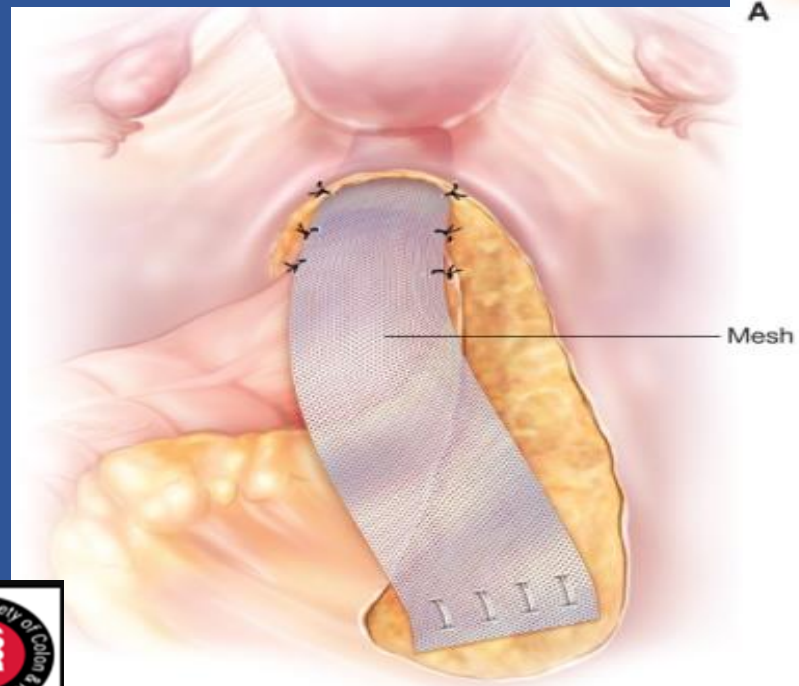

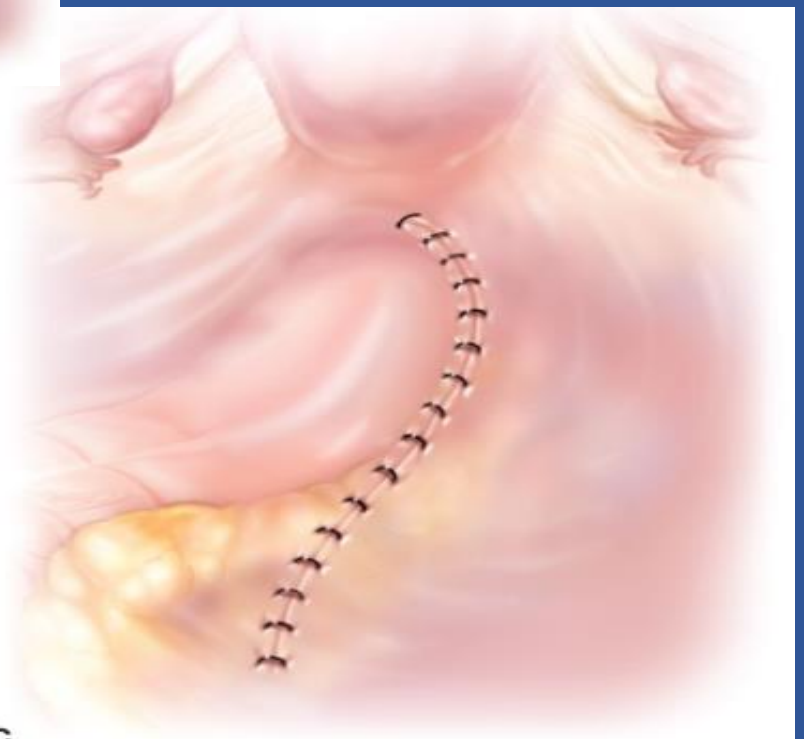

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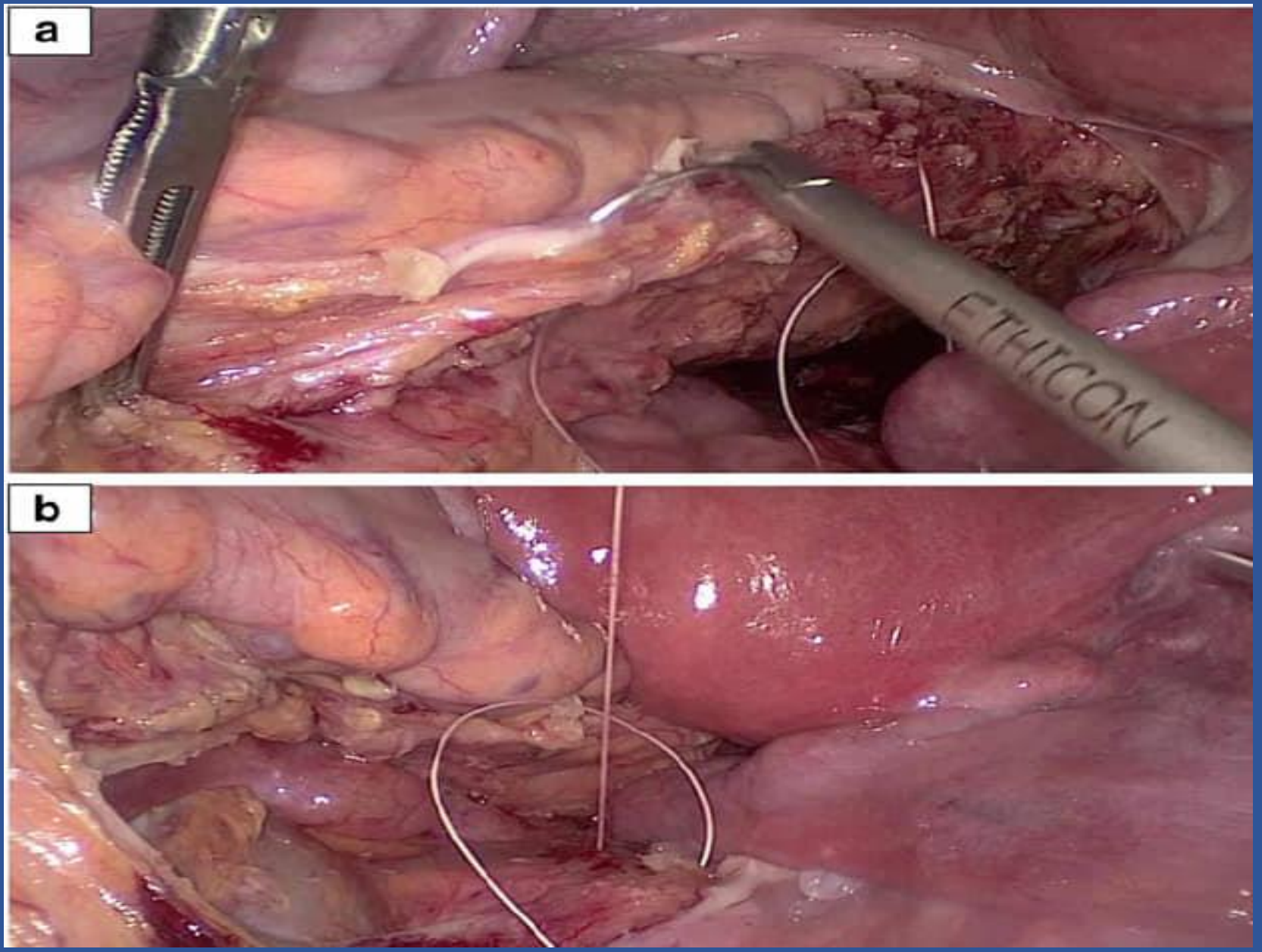
J Anus Rectum Colon 2020; 4(3): 89-99 dx.doi.org/10.23922/jarc.2019-035

Table 3. Results of Laparoscopic Ventral Mesh Rectopexy for Rectal Prolapse.

Authors	No. of patients	Design	Morbidity (%)	Mortality (%)	Improvement of continence (%)	Improvement of constipation (%)	New onset of constipation (%)	Recurrence No. (%)	Follow-up (month)
D'Hoore et al. 2004[42]	42	Prospective	5	0	90	74	0	2 (5)	61#
Slawik et al. 2007[43]	44	Prospective	NS	0	NS	NS	NS	0 (0)	54*
Boons et al. 2010[44]	65	Prospective	17	0	85	72	0	1 (2)	19#
Randall et al. 2014[45]	190	Prospective	6	1	93	NS	NS	6 (3)	60*
Formijne Jonkers et al. 2014[46]	40	Retrospective	8	0	73	59	6	0 (0)	42*
Faucheron et al. 2015[47]	175	Prospective	5	0	NS	NS	NS	2 (1)	74#
Emile et al. 2017[48]	25	Randomized	20	0	75	63	0	2 (8)	18*
Madbouly et al. 2018[40]	41	Retrospective	17	0	67	59	0	1 (2)	46*
Tsunoda et al. 2020[49]	58	Prospective	10	0	77	75	0	1 (2)	49#

- No reported mortality (only one series 1% (2/190)
- Recurrence rate (0-8%)
- Overall improvement in continence (67-93%)
- Improvement of constipation (59-75%).
- New onset constipation (0-6%)

Mesh rectopexy versus suture rectopexy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International Journal of Colorectal Disease (2021) 36:1357–1366
https://doi.org/10.1007/s00384-021-03883-0

REVIEW

Meta-analysis of laparoscopic mesh rectopexy versus posterior sutured rectopexy for management of complete rectal prolapse

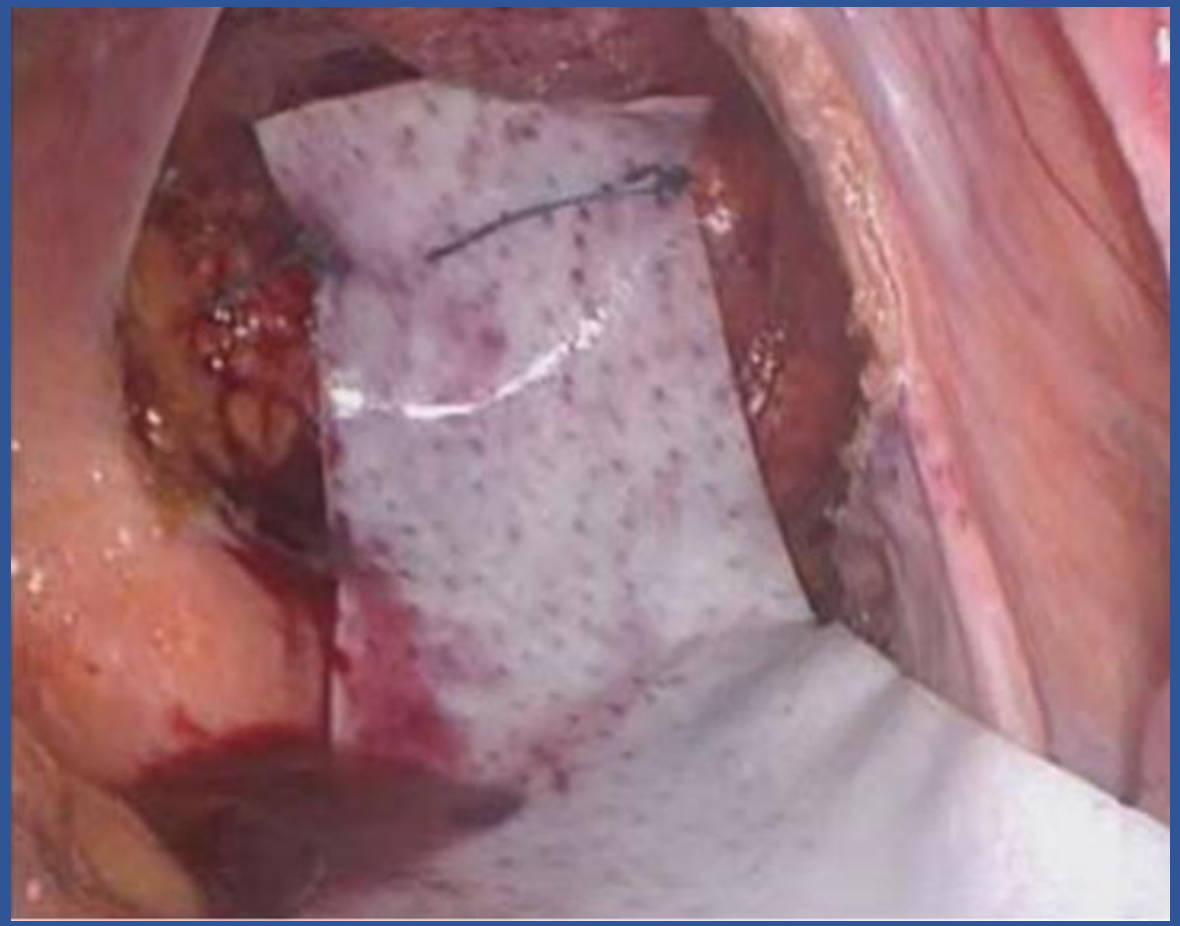
Shahin Hajibandeh[1] · Shahab Hajibandeh[2] · Chokkalingam Arun[1] · Adedayo Adeyemo[1] · Brendan McIlroy[1] · Rajeev Peravali[3]

	LMR	PSR	P value
Recurrence	3.7 %	12.2%	**0.009**
CCIS	5.5 ± 1.0	6.5 ± 2.3	0.50
CCCS	6.7 ± 3.2	8.2 ± 5.6	0.47
SSI	1.4	0.8	0.71
Operative time	101 ± 27.8	78.2 ± 23.9	**< 0.0001**
Hospital stay	3.5 ± 1.1	3.5 ± 1.0	0.47

Conclusions LMR seems to be associated with lower recurrence but longer procedure time compared to LPSR. Although no mesh-related complications have been reported by the included studies, no definitive conclusions can be made considering that the included studies were inadequately powered for such outcome. Future high-quality randomised studies with adequate sample size are required.

Synthetic versus biological mesh

- Porcine dermal collagen (Permacol™ or Pelvicol™) and porcine intestinal submucosa (Surgisis©).
- Cross-linked porcine dermal collagen is the most commonly used mesh with low rate of complications.
- The level of evidence available on the use of biological mesh in VMR is of low quality (level 4) .
- The cost of biological mesh remains a problem.



OXFORD

BJS Open, 2021, **5(1)**, zraa037
DOI: 10.1093/bjsopen/zraa037
Systematic Review

Suture rectopexy *versus* ventral mesh rectopexy for complete full-thickness rectal prolapse and intussusception: systematic review and meta-analysis

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[1]University of Liverpool, Liverpool, UK
[2]St Helen's and Knowsley Teaching Hospitals NHS Trust
[3]Royal Liverpool and Broadgreen University Hospitals NHS Trust, Liverpool, UK

Table 4 Comparison between biological and synthetic mesh for mesh rectopexy

Type of mesh	No. of studies		Recurrence		
	CRP	IS	CRP	IS	Total
Biological	5	2	4 of 97 (4)	16 of 140 (11.4)	20 of 237 (8.4)
Synthetic	17	4	49 of 1362 (3.6)	23 of 209 (11.0)	72 of 1571 (4.6)
P*			0.789	0.902	

Values in parentheses are percentages. CRP, complete rectal prolapse; IS, intussusception. *Pearson's χ^2 test.

Robotic versus laparoscopic mesh rectopexy

World Journal of Gastroenterology

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DOI: 10.3748/wjg.v22.i21.4977

World J Gastroenterol 2016 June 7; 22(21): 4977-4987
ISSN 1007-9327 (print) ISSN 2219-2840 (online)
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REVIEW

Current status of laparoscopic and robotic ventral mesh rectopexy for external and internal rectal prolapse

Jan J van Iersel, Tim JC Paulides, Paul M Verheijen, John W Lumley, Ivo AMJ Broeders, Esther CJ Consten

- LVMR and RVMR appear as a safe and effective procedure to correct different rectal prolapse syndromes with a low morbidity rate, acceptable long-term recurrence rates and a good functional outcome.
- Advantages of robotic over laparoscopic surgery including improved dexterity of movement, obliteration of hand tremors, image magnification and instruments with a wide range of movements but it has a higher cost and in need for a steep learning curve.

Conclusion

- Mesh rectopexy includes either posterior or ventral.
- VMR is the autonomic nerve sparing technique and the best choice for anterior rectocele, enterocele and intussusception.
- LVMR has the short term advantages over the open technique with equal rates of recurrence, incontinence or constipation.
- Mesh rectopexy is better than suture rectopexy with a low rate of recurrence but a longer op. time.
- Complication rate is lower with biological mesh but has a higher cost.


Thank
You