



Transanal total mesorectal Excision (TA-TME) Early experience of kasr-Alainy (Single team approach).

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“ Ta TME vs Robotic low anterior resection excision for malignant rectal lesions ”

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- Disclosure: No Conflict of interest.

- Points of the presentation:

1. Technical points of the Ta TME single technique.
2. Kasr Alainy experience in Robotic versus TA TME Single team approach.
3. Ta TME “single team” Vs. Robotic LAR. Cairo University experience.
4. Conclusions.

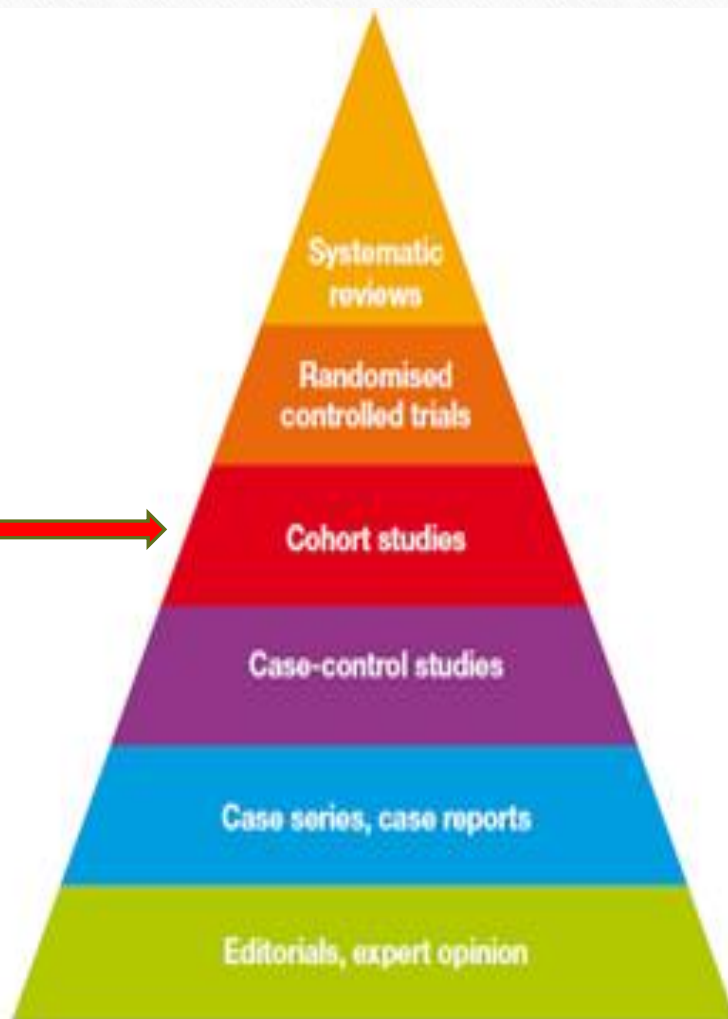
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- Advances in minimally invasive surgery have led to the development of many novel surgical techniques. Single incision laparoscopic surgery (SILS) and natural orifice trans luminal endoscopic surgery (NOTES) are among the techniques that are designed to reduce surgical trauma and enhance postoperative recovery. **(Clark MP, et al 2012)**
 - Minimally invasive surgery for colorectal disease was introduced in 1991 **Jacobs M. et. al.**

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- Robotic colorectal surgery (RCS) was first reported in 2002 (**Weber PA et.al.**). Since then, many studies of RCS have been widely reported.
 - RCS has some advantages over conventional laparoscopic surgery (LCS). These advantages include a three-dimensional image, convenient movements of the robotic arm, no tremor, motion scaling, a short learning curve, dexterity and ambidextrous capability (**D'Annibale et.al. 2004**)

Aim of the work

The aim of the present study is to compare the usage of the Trans anal SILS port (TaTME) and the Da vinci robot in resection of mid and low rectal carcinoma and to assess the feasibility of both techniques in resection of challenging low rectal cancer

Patients and Methods



40 patients
(males and
females)



20 patients with The da
Vinci Surgical System

20 patients with TaTME

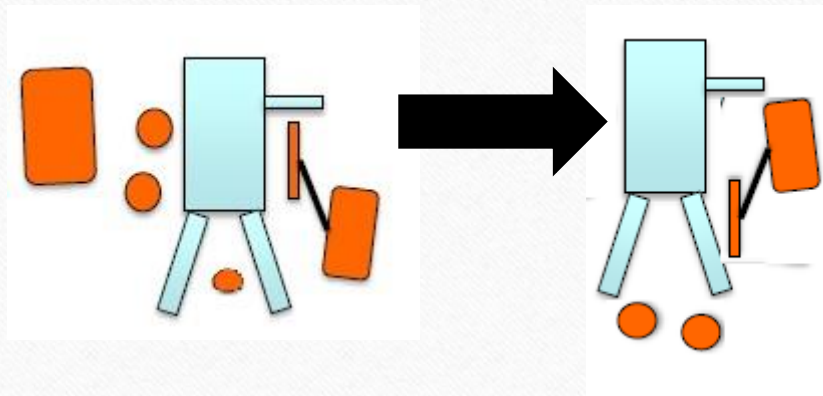


Surgery

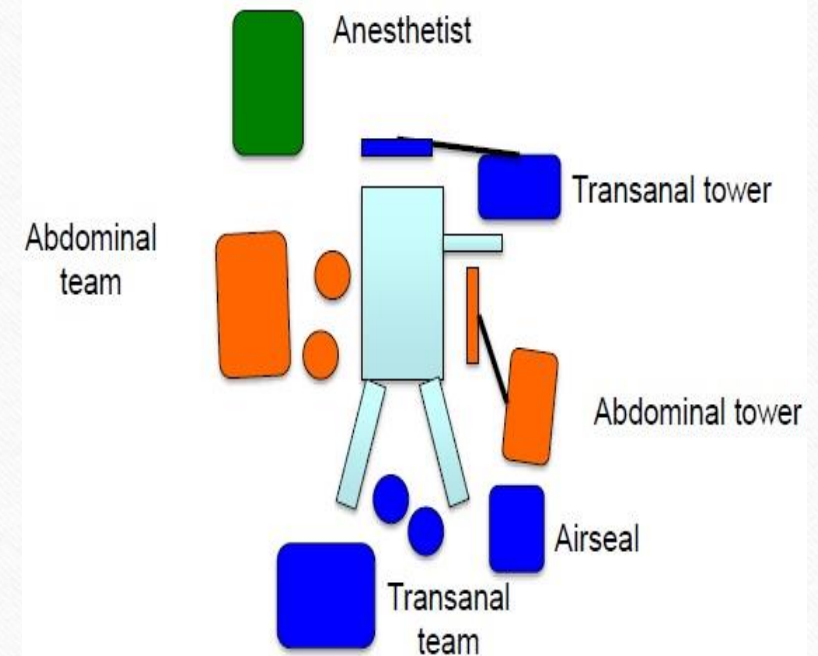
- Surgery was performed 6-8 weeks after last chemoradiation session.
- Routine ureteric catheterization to help in identification and minimize intraoperative ureteric injuries.
- Mark-Up and Trocar Placement.
- Single team approach.
- Conventional laparoscopy for the abdominal part.
- GelPOINT Mini Advanced Access Platform port for the transanal part.

Technical points of the TATA Rectal Resection

Single team approach

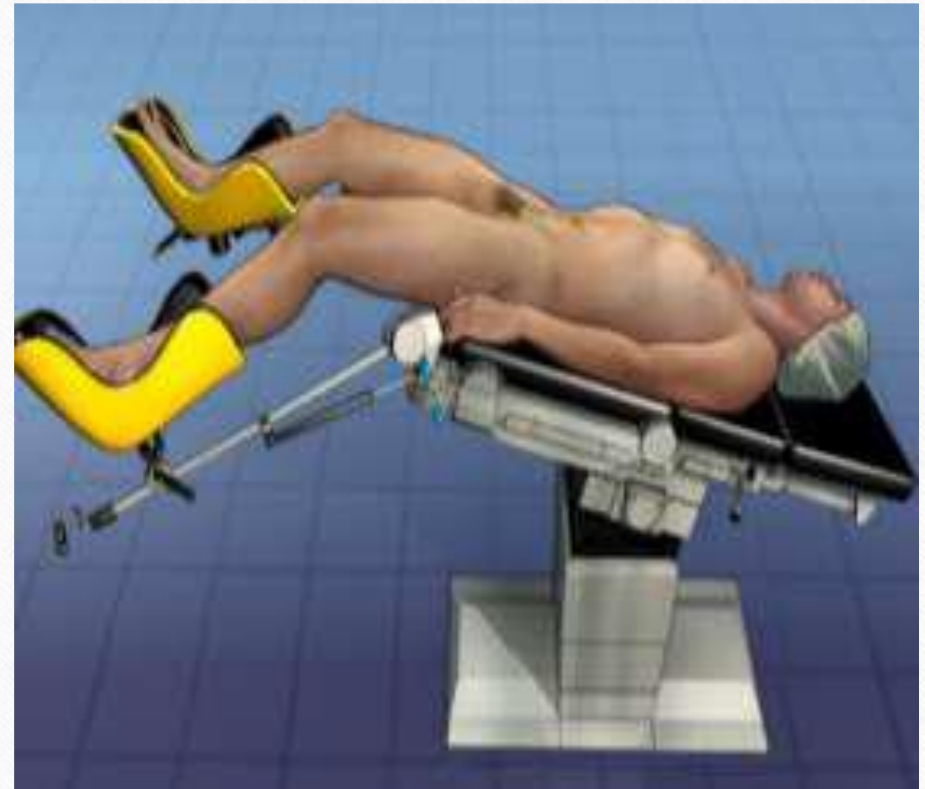


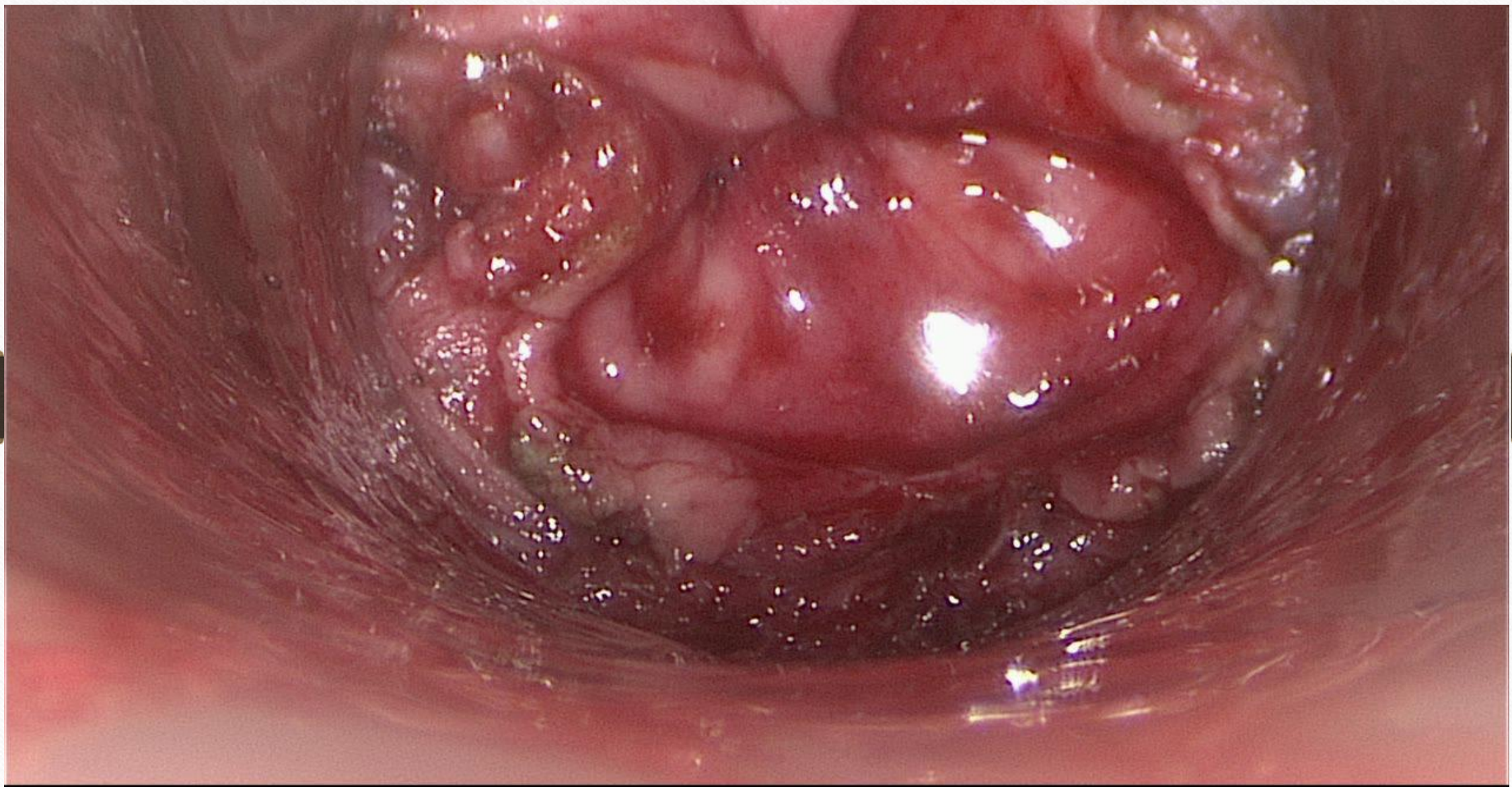
Two team approach

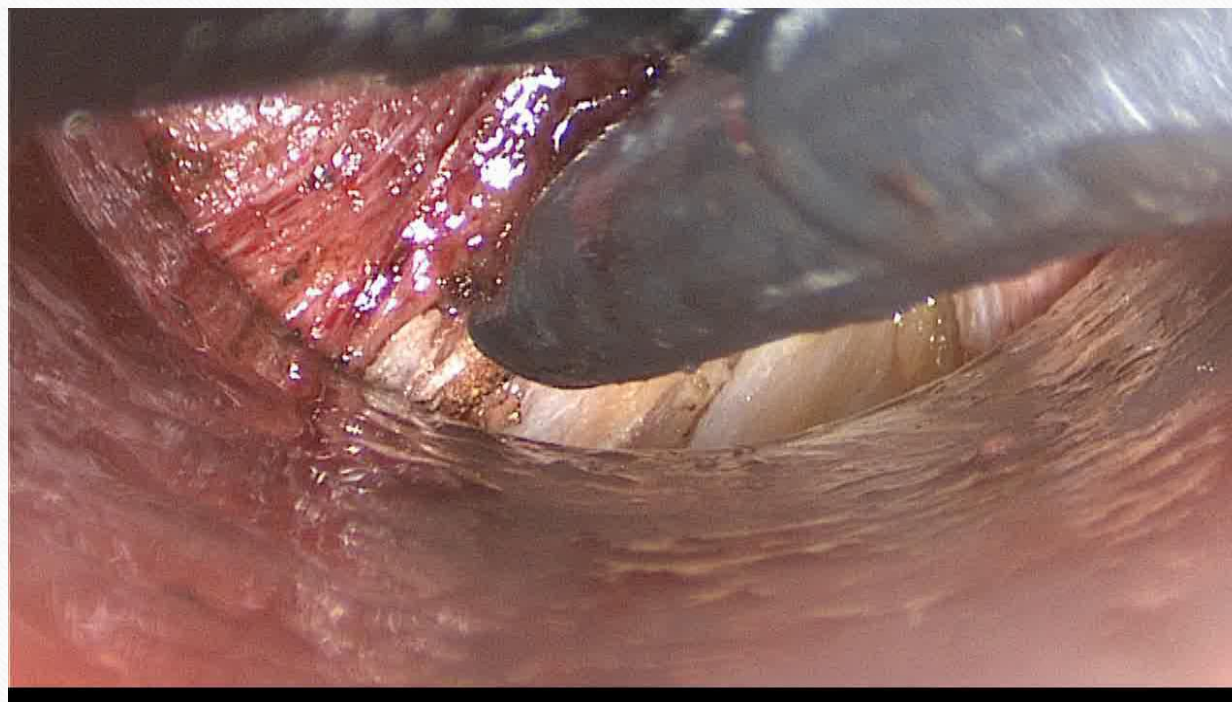


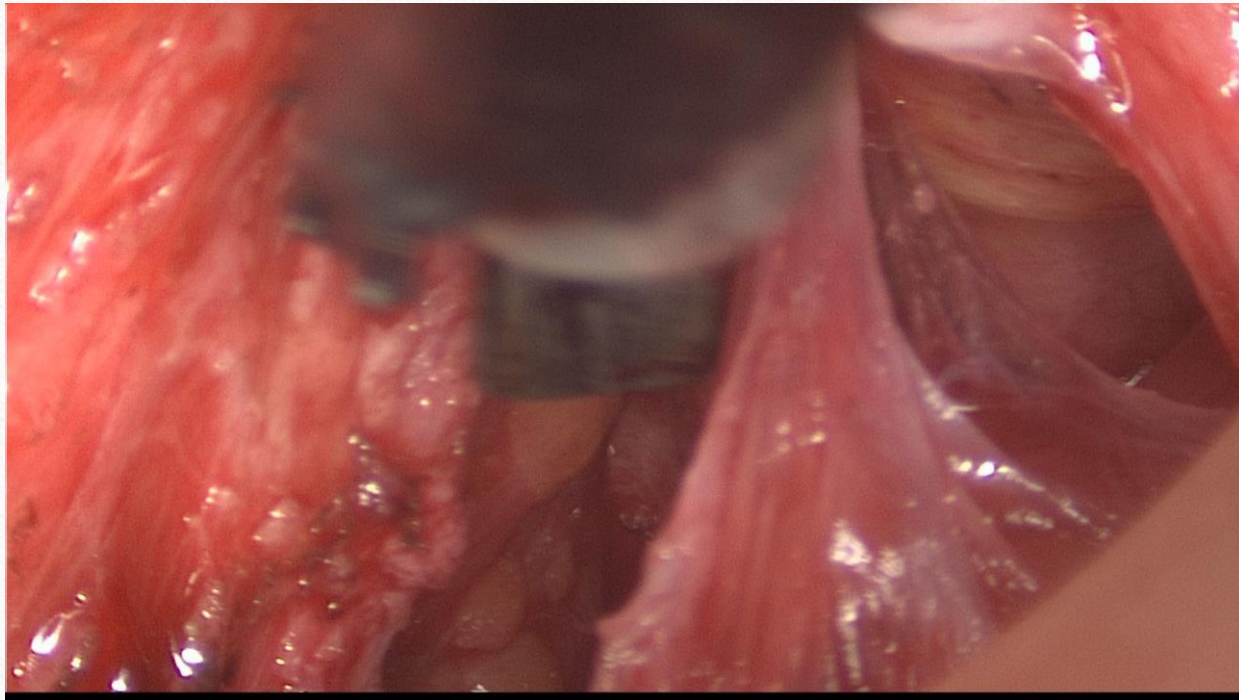


Lloyd Davis Position









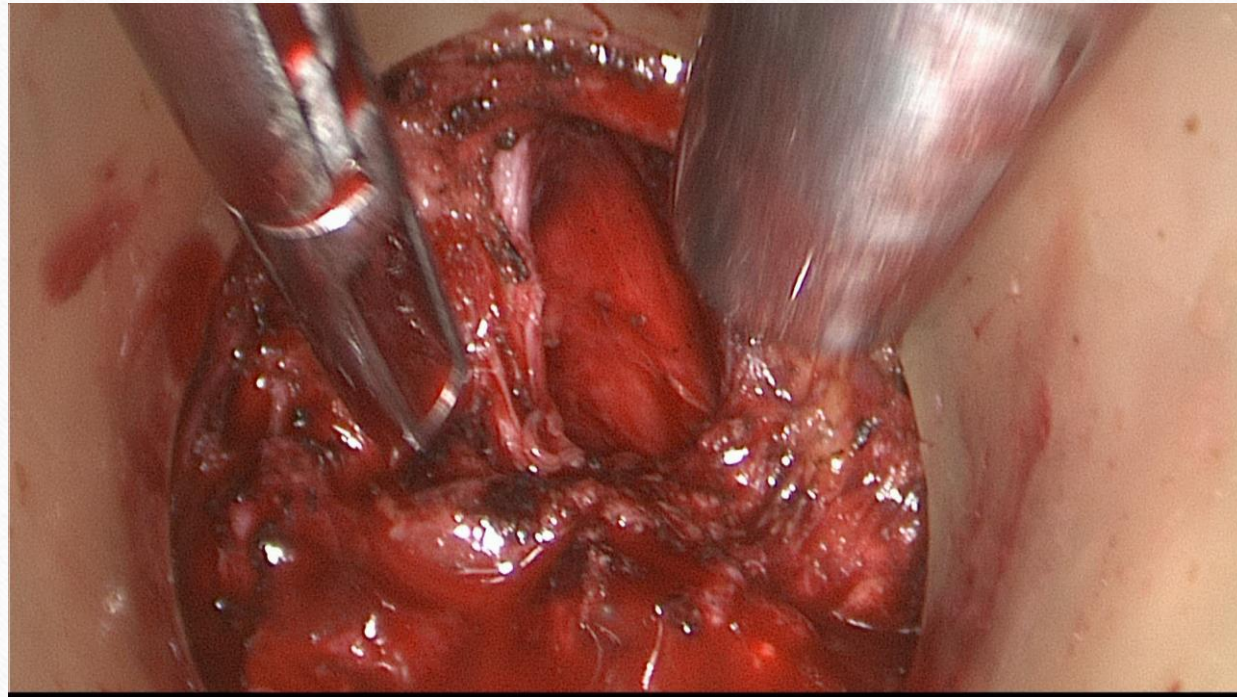
Original article

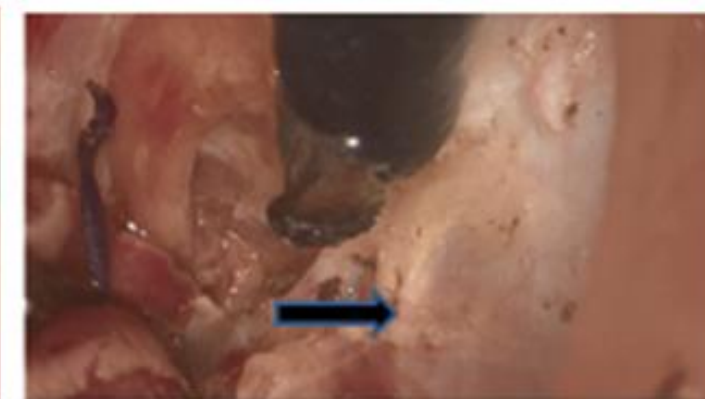
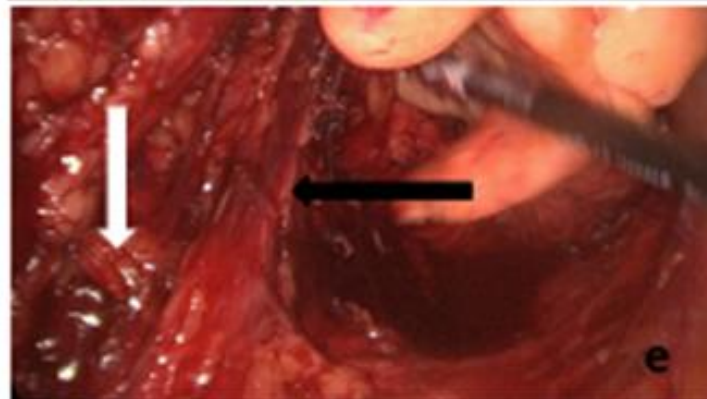
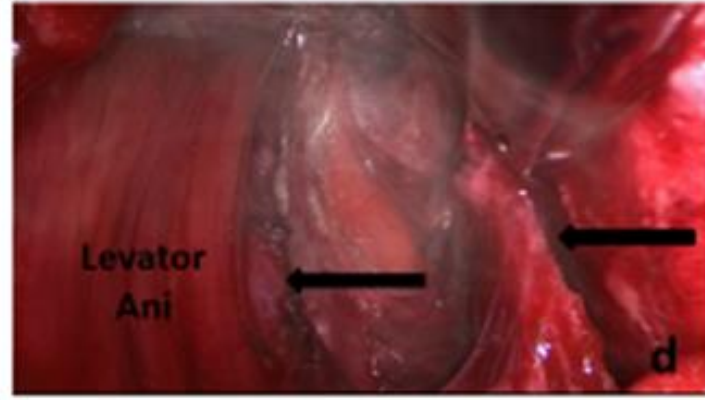
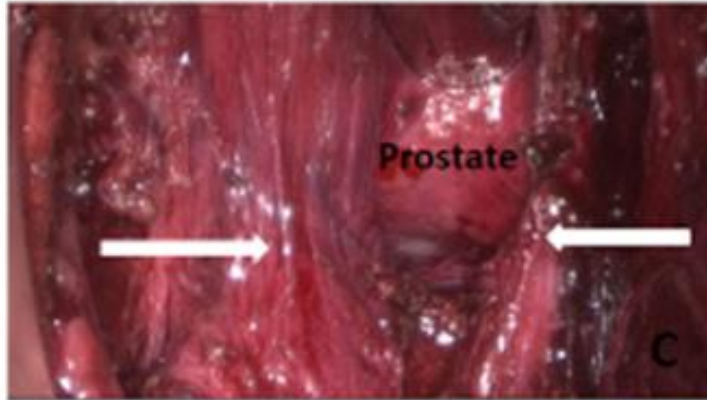
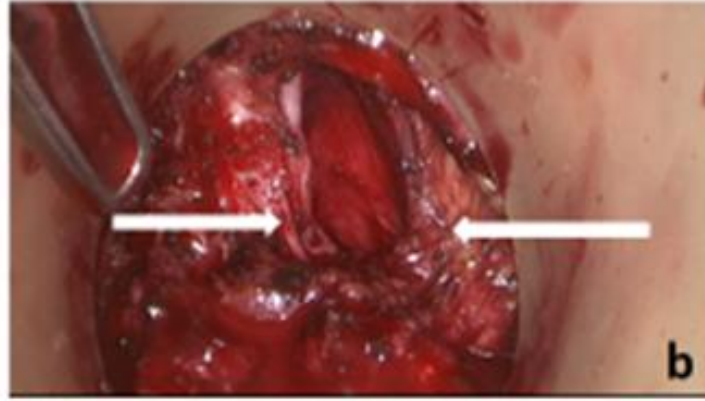
Prostato-sacral Ligament, description of a new anatomy in males, its clinical significance and anatomic similarity to female anatomy

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Prostato-sacral Ligament, description of a new anatomy in males, its clinical significance and anatomic similarity to female anatomy

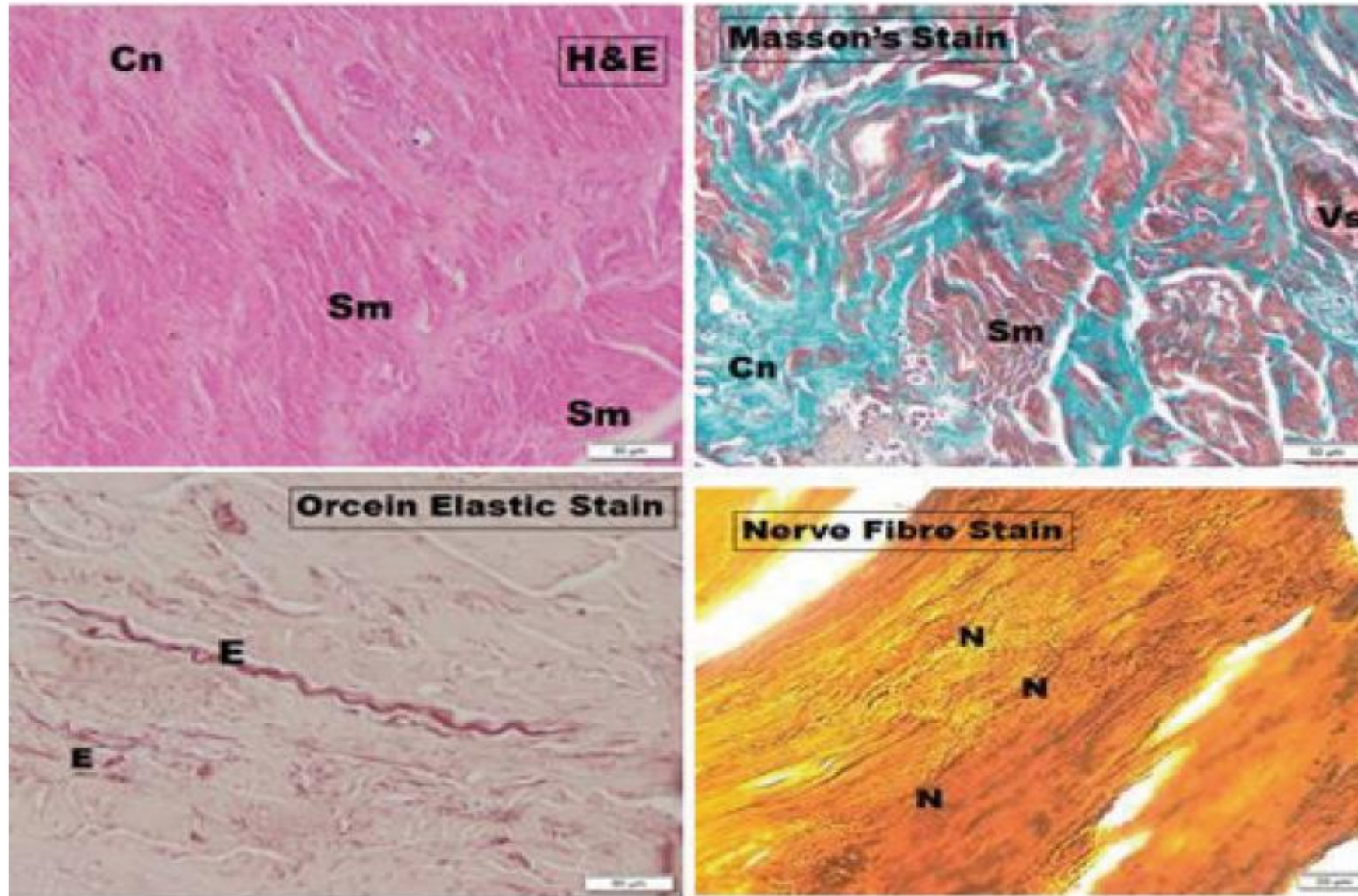
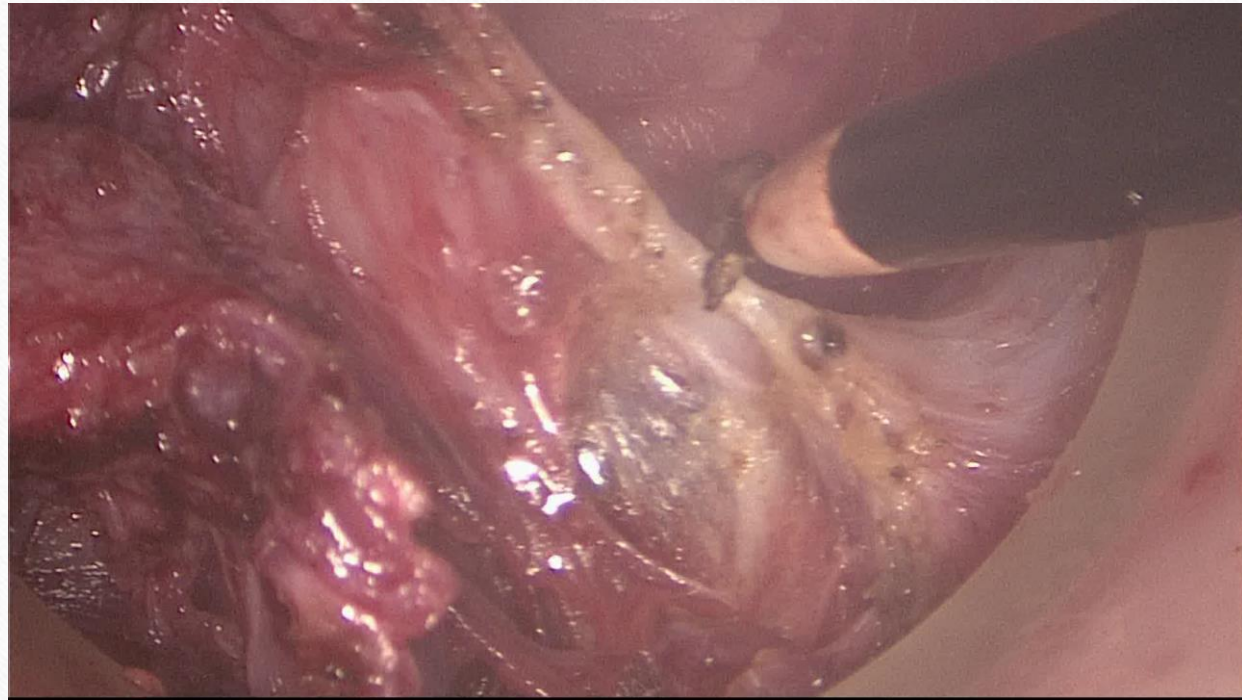


Figure (2): Histologic studies in a male revealed its Musculo-tendinous structure With abundant blood vessels, elastic fibers and nerves, Using H&E Masson's trichrome collagen stain, Orcein elastic stain and modified Palmgren's method for nerve fibres.



Gender		Male	Female	Total
TATME	Frequency	8	12	20
	Percentage	40%	60%	100%
Robotic	Frequency	11	9	20
	Percentage	55%	45%	100%
Total	Frequency	19	21	40
	Percentage	47.5%	52.5%	100%

Inclusion criteria:

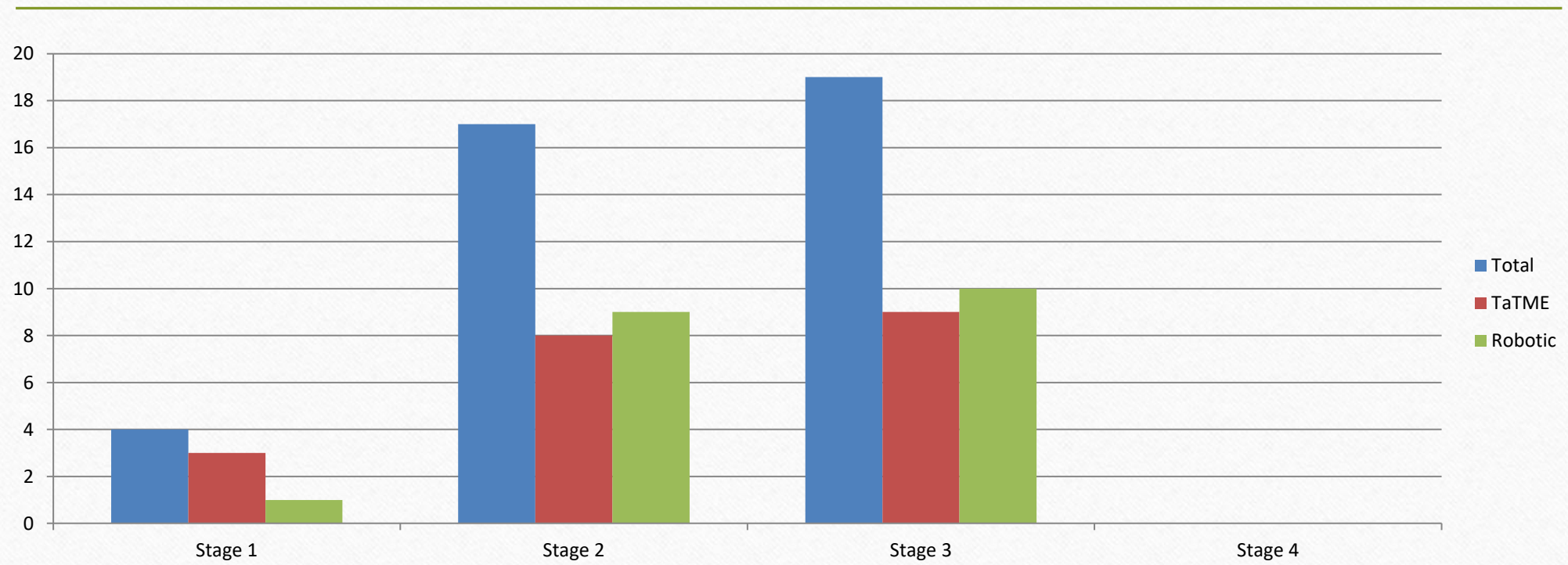
- Patients with resectable mid and low rectal cancer.
- Non metastatic colorectal cancer.
- Good general condition allowing surgical intervention.
- With or without history of neoadjuvant therapy.

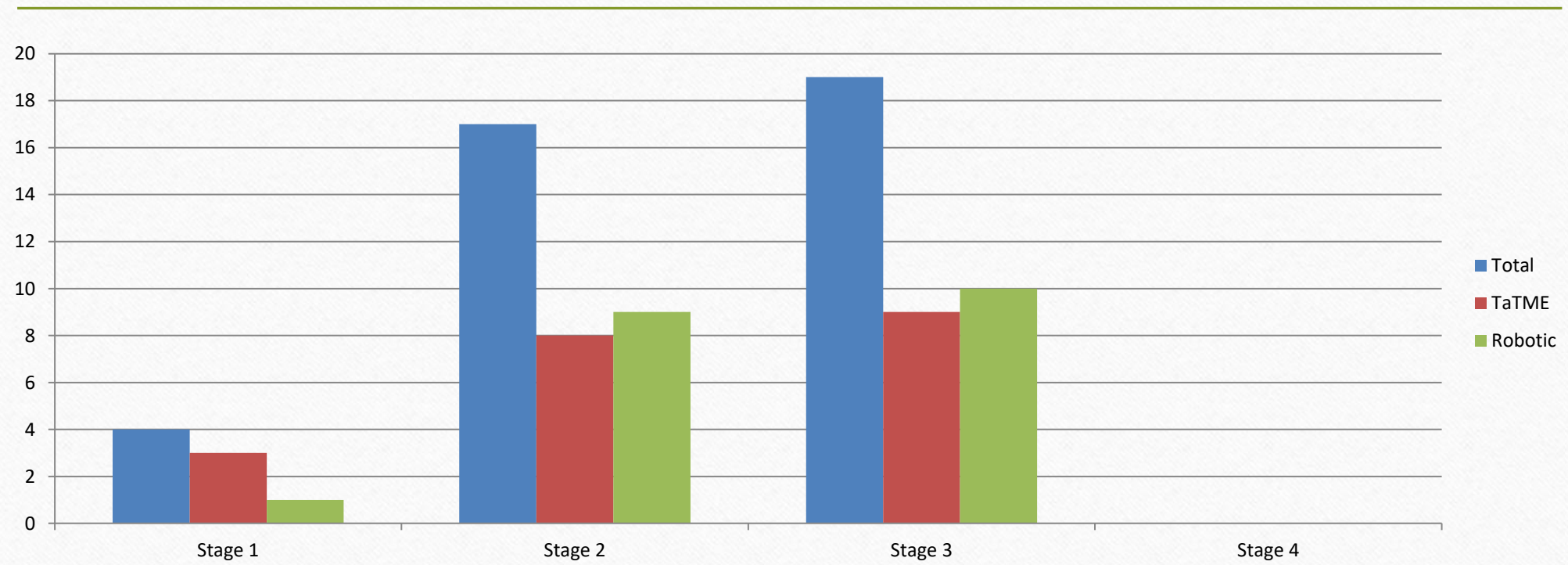
Exclusion criteria :

- Irresectable masses
- Inoperable cases
- Previous abdominal surgery
- Patients refusing the study.
- Patients with obstructed or perforated tumors.
- Contraindications of laparoscopy as cardiac failure, pulmonary failure.

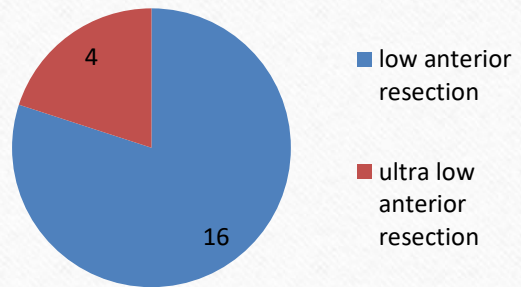
Histopathology



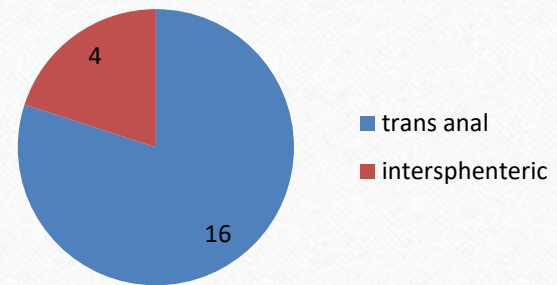




Robotic



TaTME



Operative Time

		Mean	Standard Deviation	Median	Minimum	Maximum	P Value
Total time	Both groups	222.72	67.12	195.50	139.00	371.00	<0.001
	TaTME	179.10	23.45	177.50	139.00	225.00	
	Robotic	266.35	68.48	263.00	182.00	371.00	
Preparation time	Both groups	46.35	25.45	36.00	19.00	113.00	<0.001
	TaTME	26.75	2.83	27.50	19.00	31.00	
	Robotic	65.95	22.65	56.50	41.00	113.00	
Actual time	Both groups	176.37	44.91	151.00	113.00	280.00	0.003
	TaTME	152.35	22.82	149.00	113.00	198.00	
	Robotic	200.40	49.03	201.50	140.00	280.00	

Estimated blood loss comparison

		Mean	SD	Median	Minimum	Maximum	P Value
Bleeding (ml)	TaTME	130.50	75.76	110.00	50.00	400.00	0.017
	Robotic	212.00	141.15	170.00	50.00	650.00	
	Both groups	171.25	119.18	137.50	50.00	650.00	

Safety margin

		Mean	Standard Deviation	Median	Minimum	Maximum	P Value
distal margin	Total	2.35	0.64	2.35	1.40	4.00	0.002
	TaTME	2.02	0.42	1.90	1.50	2.90	
	Robotic	2.68	0.67	2.75	1.40	4.00	
proximal margin	Total	14.30	2.66	14.00	10.00	20.00	0.698
	TaTME	14.55	2.95	14.00	10.00	19.00	
	Robotic	14.05	2.39	13.50	10.00	20.00	

Circumferential margins

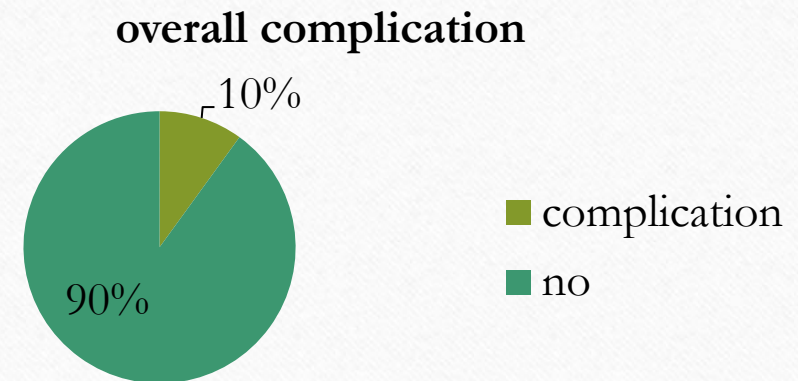
- Although the circumferential radial margin (CRM) was complete in 18 patients only (90%) in the robotic group in contrast to 20 patients (100%) in the TaTME group, it did not differ statistically with a P value = 0.487.

L.N. retrieval

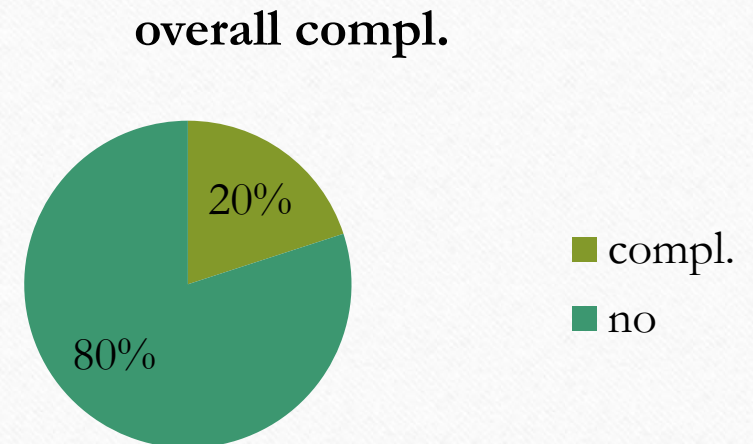
		Mean	Standard Deviation	Median	Minimum	Maximum	P Value
Number of lymph nodes	Total	13.77	4.96	13.50	6.00	25.00	0.678
	TaTME	13.60	6.44	12.00	6.00	25.00	
	Robotic	13.95	3.02	14.00	8.00	20.00	
Positive Lymph nodes	Total	4.13	3.84	3.50	0.00	13.00	< 0.001
	TaTME	1.60	3.28	0.00	0.00	13.00	
	Robotic	6.65	2.46	6.00	2.00	12.00	

Complications

- Overall complication rate between the two groups showed no statistical significance (p value = 0.601)
- As for TaTME we had 2 cases with complications (10%)
 - One in the form of leakage after primary anastomosis
 - The other is conversion to open



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- As for robotic group we had four complication (20 %)
 - One in the form of leakage
 - One in the form of conversion to open
 - Two in the form of ileus



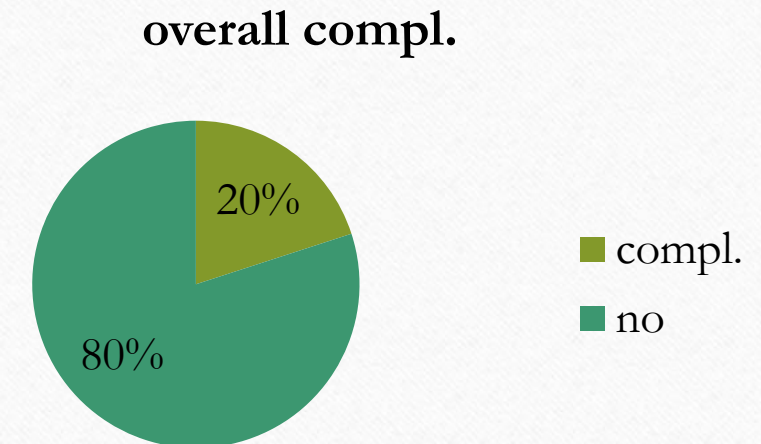
The length of hospital stay

		Mean	Standard Deviation	Media n	Minimu m	Maximu m	P Value
Hospital Stay	Total	4.85	2.60	5.00	2.00	14.00	0.014
	TaTME	5.10 ↑	0.64	5.00	4.00	7.00	
	Robotic	4.60 ↓	3.65	3.00	2.00	14.00	

Total hospital cost per case (X 1000 L.E.)

		Mean	Standard Deviation	Median	Minimum	Maximum	P Value
cost	Total	78.43	33.01	77.50	44.00	128.00	< 0.001
	TaTME	46.15 ↓	1.14	46.00	44.00	49.00	
	Robotic	110.70 ↑	6.47	108.00	106.00	128.00	

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- As for robotic group we had four complication (20 %)
 - One in the form of leakage
 - One in the form of conversion to open
 - Two in the form of ileus



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- This study suggests that robotic surgery is safe and effective and has some advantages concerning low rectal resections and distal margin.
 - However, robotic resection was associated with a significant increase in total costs relative to TaTME.
 - Further well-designed, prospective controlled randomized trials should be conducted to assess the financial benefits and the long-term oncologic outcomes of both techniques.

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- Although the experience with TaTME is still limited, it represents a promising complementary to laparoscopic TME regarding the step of low rectal dissection, especially for difficult cases where laparoscopy is too demanding.
 - The preliminary data on complications and short-term oncological outcomes are good.
 - We also emphasize the importance of careful patient selection



*Thank
you*

