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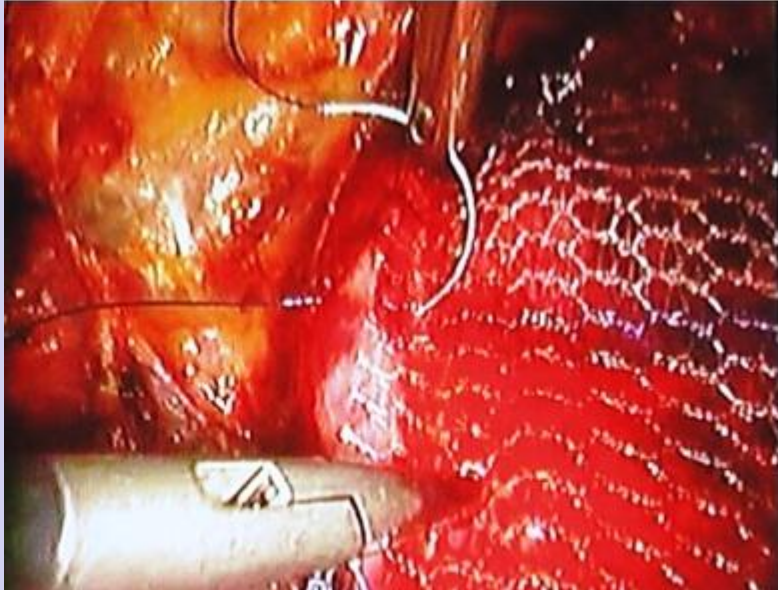
LAPAROSCOPIC PROMONTOFIXATION FOR THE GENITAL PROLAPSE TREATMENT



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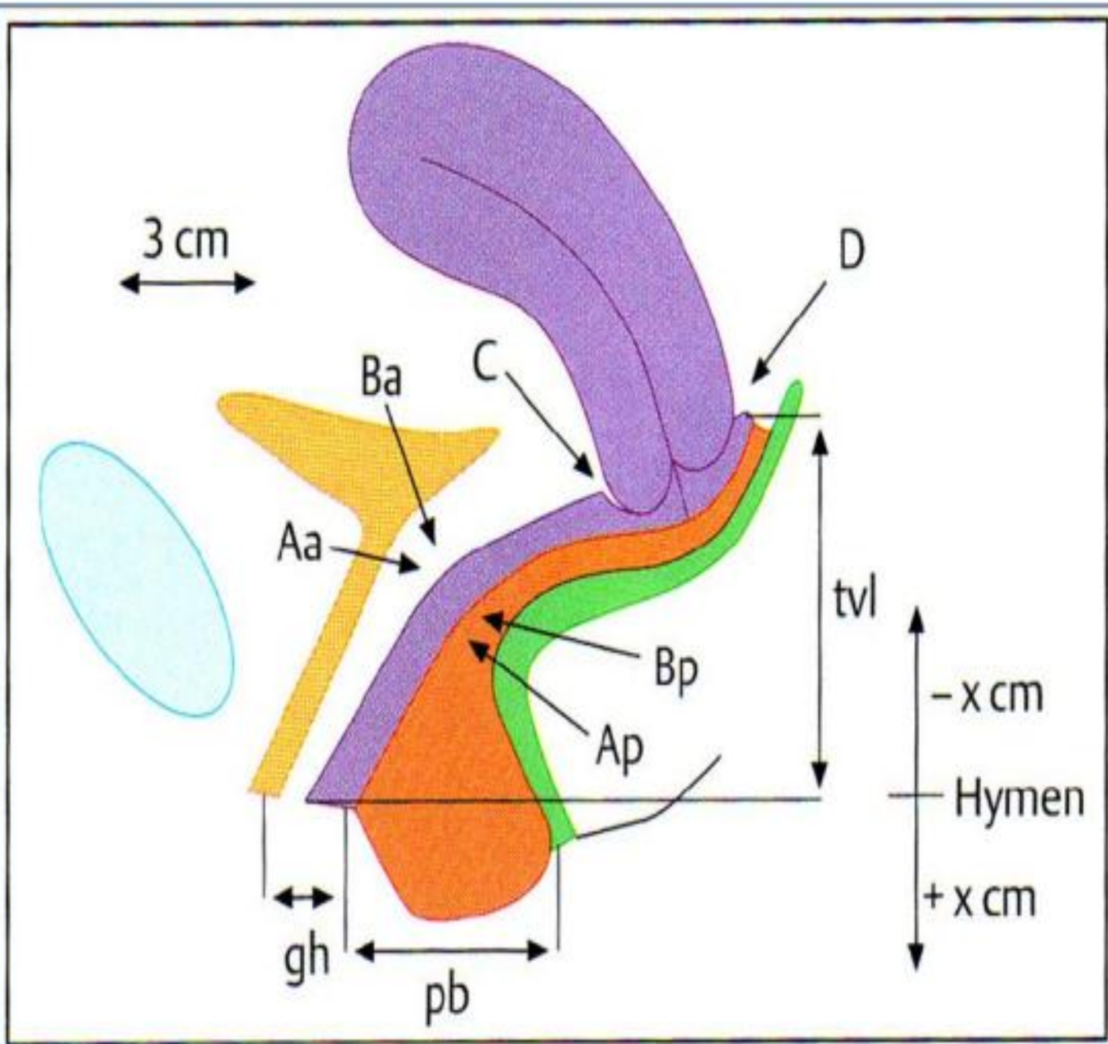
1. INTRODUCTION

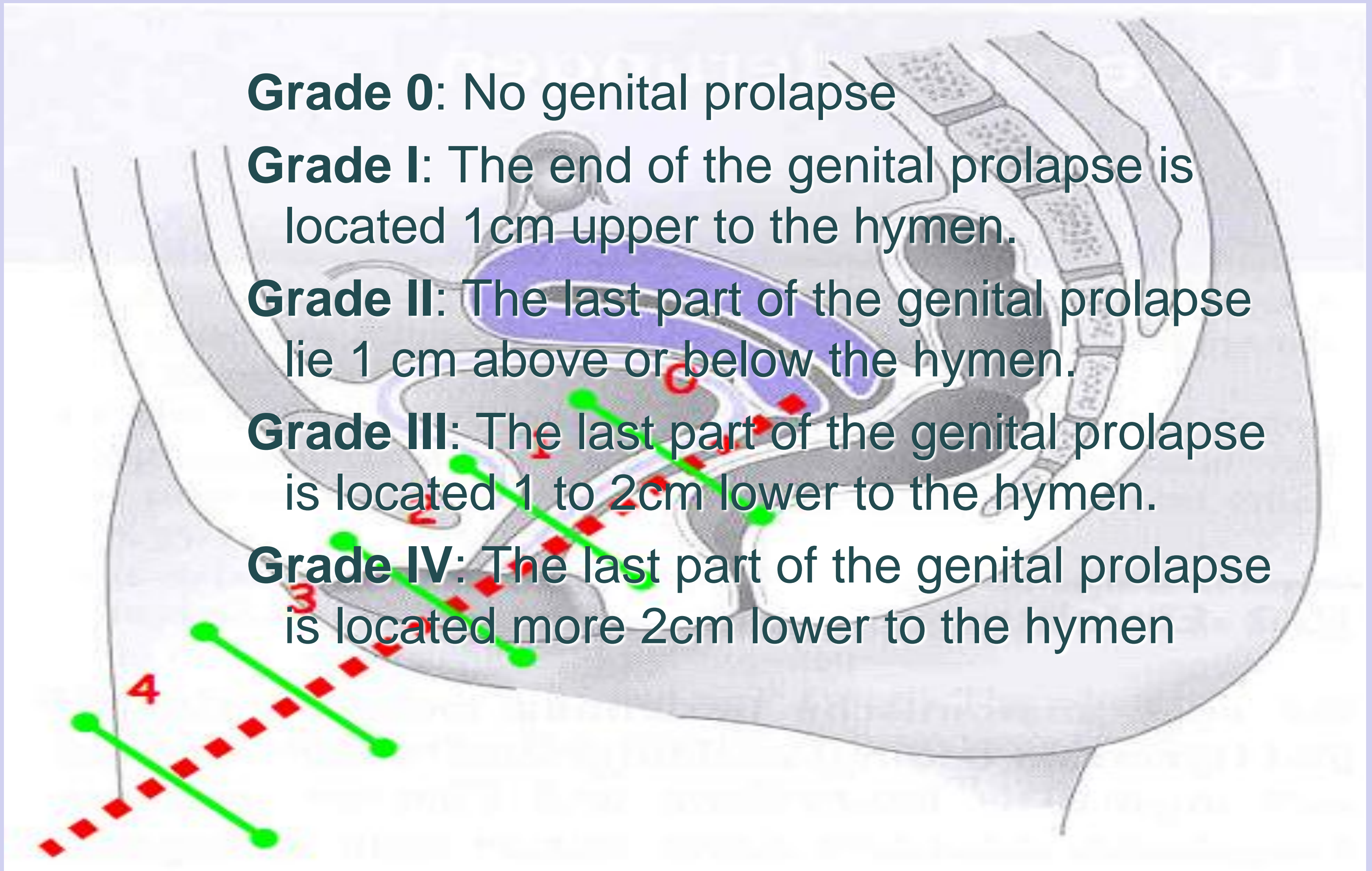
- Genital prolapse is a common condition, occurring in 50% of patients who have given birth
- In the US, the annual incidence of about 250 000 cases / year
- Grading of genital prolapse according to the Baden-Walker consist of 4 grades
- Grading according to POP-Q (1996 - International Association of Urology – Gynaecology and American Society of Urology - Gynecology and gynecological surgery)

Basis for POP – Q grading is based on the landmark : Aa, Ba, C, D, Bp, Ap, TLV, Gh, and Pb (-3, -3, -7, -9, -3, -3, 9, 2, 2)



Aa: chỗ nối niệu đạo – BQ
Ba: trần thành trước
C: cổ TC
D: túi cùng Douglas
Ap: phần thấp của thành sau
Bp: trần cầu thành sau
Gh: lỗ màng trinh
Pb: khoảng cách âm hộ - hậu môn
Tlv: độ dài âm đạo

In fact for clinical examination, POP-Q classification is as follows:



Grade 0: No genital prolapse

Grade I: The end of the genital prolapse is located 1cm upper to the hymen.

Grade II: The last part of the genital prolapse lie 1 cm above or below the hymen.

Grade III: The last part of the genital prolapse is located 1 to 2cm lower to the hymen.

Grade IV: The last part of the genital prolapse is located more 2cm lower to the hymen

Treatment of genital prolapse

non-invasiv treatment of pelvic floor insufficiency

- pelvic floor exercises/re-education

  KEGEL EXERCISES

- electric-stimulation

- pessaries

Support with Pessaries

Siebschalenpessar (nach Arabin)
Maße: 55, 60, 65,..., 90 mm

Siebschalenpessar (nach Schatz)
Maße: 50, 55, 60,..., 100 mm

Siliconringpessar
Maße: 50, 55, 60,..., 100 mm

Dickes Ringpessar
Maße: 50, 55, 60,..., 100 mm

Mutterring
Maße: 50, 55, 60,..., 100 mm

Femcon-Set
zur Therapie von Streß-Harninkontinenz; Deszensus-Prophylaxe; post-partale Rückbildung

Würfelpessar

Größe	Kantenlänge	Größe	Kantenlänge
0	25 mm	3	37 mm
1	29 mm	4	41 mm
2	32 mm	5	45 mm

Cerclagepessar
(nach Arabin, Steiner, Quaas)
Durchm.: 65 + 70 mm
Höhe: 17, 21, 25 mm
Öffnung: 32 + 35 mm

Cerclagepessar - das Original
(nach Hamann und Jorde)

Größe	Öffnung/Länge=Breite
I	35/57
II	35/76
III	35/83

Urethrapessar
Maße: 45, 50, 55,..., 100 mm

Urethraschalenpessar
Maße: 55, 60, 65,..., 85 mm

Andere Größen und Produkte auf Anfrage
(z.B. Keulen-und Hodge-Pessare; Dilatoren; Elektrotherapie)

SURGERY

- Manchester method
- Crossen method
- Repair of anterior, posterior vaginal wall
- Promontofixation
- MESH PROLIFT
- Fixation to, shorter to the sacro-utero ligaments ...

PROMONTOFIXATION

- In recent years, Laparoscopic promontofixation surgery have been introduced into clinical application and gave encouraging results.

- Hue Central Hospital: with the technical implementation from June, 2011 with the help of expert teams from pelvic floor surgery center in Wuerzburg, Germany, and experts of Incontinence Center, from S.C. USA,

Objectives of study:

- Determining the rate of urine incontinence and POP – Q grading for female genital prolapse.
- Evaluating treatment outcomes after surgery of 2 Methods: Laparoscopic Promontofixation and Crossen surgery, a vaginal traditional surgical method.

Methodology

-The group of patients with genital prolapse (Group I) at Hue Central Hospital meet the following criteria:

-**Selective criteria**: severe genital prolapse include vesical and rectal prolapse of 2, 3, 4 grad and / or uterine prolapse of grade 3 and 4 having a desire to reverse the uterus or no indication of hysterectomy.

-- **Exclusive criteria**: mild genital prolapse, too weak to the surgery, clear hysterectomy indication (eg endometrial cancer), having previous vaginal surgery then, the case of serious infections.

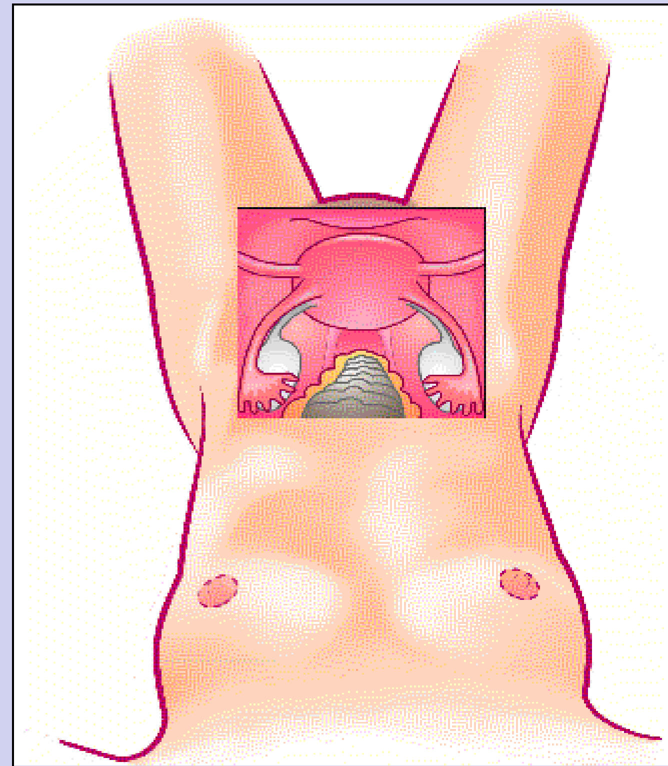
METHODOLOGY

Retrospective, cross-sectional descriptive study on 62 patients divided into 2 groups:
Group I included 12 patients with laparoscopic promontofixation surgery
Group II included 50 patients who underwent the Crossen surgery
in the period from 06/2011 to 6/2015 .

Assessing patients:
- According to POP-Q Grading at pre- and post-surgery 1, 6, 12, 24 and 48 months.
- Postoperative pain Status will be tabulated with VAS scale (Visual Analogue Pain Scale) at day 1, 3, after surgery.
- Complications during and after operation

PATIENT PREPARATION

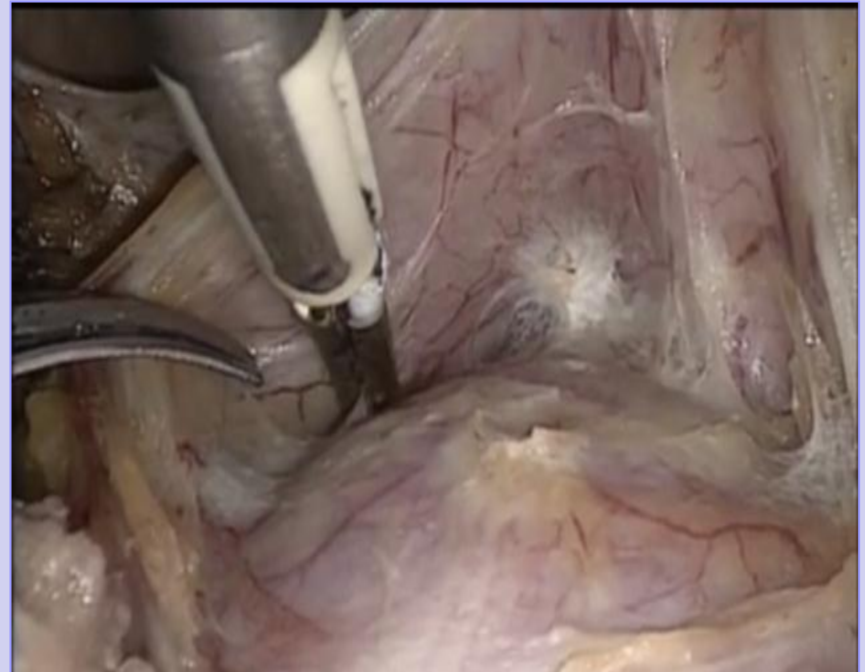
- Patients: eating lightly a day before operation and carefully intestinal enema
- Supine, legs placed on racks
- Introducing the uterine manipulator
- After introduction of the umbilical trocar, changing the postures of trendelenbur
- 3 trocar above pubis and sides higher in the normal position



SURGICAL STEPS

Crossen surgery Group: vaginal total hysterctomy, dissection, raising bladder position, anterior, and posterior vaginal wall repair, if necessary.

Laparoscopic group: Introducinng through the umbilical port with the 10 mm trocar and three 5 mm-trocars at the lower abdomen.
Openning the peritoneum in front of the promontory along the right side of rectum to the Douglas sac, dissecting the rectum from the posterior vagina until anal elevator muscle. Openning peritoneum between bladder and uterus, dissecting the bladder from the anterior vaginal wall until 1/3 lower vagina.

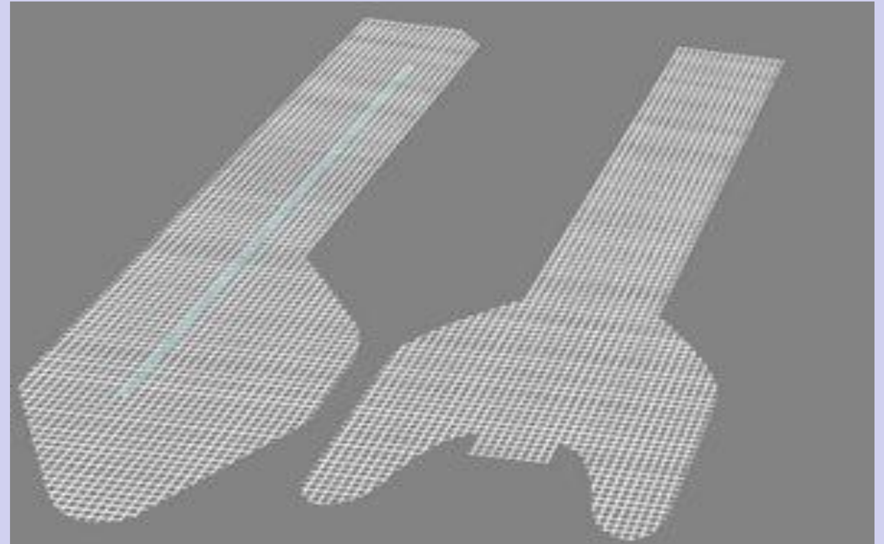


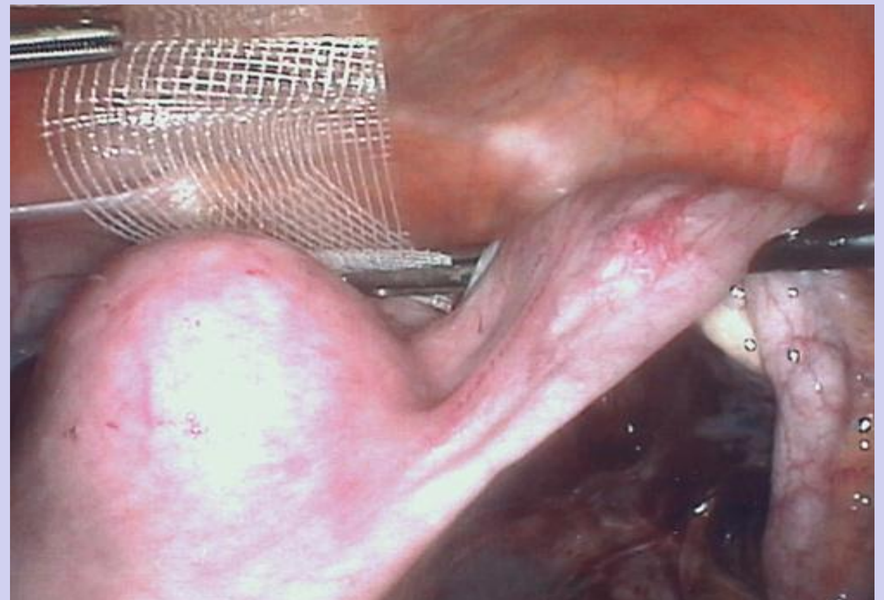
SURGICAL STEPS

Two meshes of Polypropylene turn fixed to the front and rear of vagina:

-- Y-shaped rear turn fixed to the right and left anal elevator muscle and the posterior vaginal wall using prolene suture.

-- Anterior Polypropylene mesh turn fixed to the anterior vaginal wall, cervical fascia, along the right side of the uterus through the broad ligament, attached to the posterior mesh and the anterior promontory ligament. Finally re-suturing the peritoneum to cover the whole mesh.





STATISTICAL ANALYSIS

Using SPSS 20.0 software to analyze, evaluate and compare the difference in surgery and postoperative results of 2 groups (laparoscopic surgery and Crossen surgery).

3. RESULTS AND DISCUSSION

Table 1. Patient Characteristics

Characteristics	Laparo.(n=12)	Crossen (n=50)	P
BMI	27,1	26,7	NS
(The ranges)	(18,7-43,1)	(18,7-32,9)	
Age	59,4	59,5	NS
(The ranges)	(42-76)	(47-79)	
Disease duration (year)	4,2	4,5	NS
(The ranges)	(2-7)	(3-8)	
The average number of births	3,1	3,4	NS
(The ranges)	(1-5)	(2-6)	

NS = No significance

The average age and age distribution range were similar in the 2 groups. The average age in the laparoscopy group is of 59.4 years, compared to 59.5 years in the Crossen surgery group. The difference in body mass index (BMI) between groups was not significant, 27.1 in the laparoscopic group compared to 26.7 in the Crossen surgery group. The most heavy patients (BMI 43.1) was successfully laparoscopically operated. More than half of patients in the laparoscopic group (52.1%) is heavier than 55,7kg.

3. RESULTS AND DISCUSSION

Table 2: Evaluation of genital prolapse (POP – Q Grading) before and after the operation

Group	Before Operation	Post operative 1 month	Post operative 6 months
Laparo. Group (n=12)			
Ba (cystocele)	+4.6 ± 0.6	- 2.3 ± 0.9	- 2.3 ± 1.1
C (uterus)	+2.6 ± 0.5	- 6.8 ± 1.3	- 6.6 ± 2.7
Bp (posterior)	- 2.4 ± 0.5	- 2.4 ± 0.8	- 2.2 ± 0.5
Crossen group (n=50)			
Ba	- 2.2 ± 0.7	- 2.2 ± 0.7	- 2.2 ± 0.6
C	+2.8 ± 0.5	- 5.6 ± 1.6	- 6.0 ± 1.8
Bp	+5.2 ± 0.2	- 2.1 ± 1.0	- 1.9 ± 0.9

Group	Post operative 12 months	Post operative 24 months	Post operative 48 months
Laparo.group (n=12)			
Ba (cystocele)	- 2.3 ± 0.8	- 2.2 ± 0.9	- 2.1 ± 1.1
C (uterus)	- 6.6 ± 1.6	- 6.4 ± 1.3	- 6.3 ± 2.7
Bp (posterior)	- 2.1 ± 0.8	- 2.0 ± 0.8	- 2.0 ± 0.5
Crossen group (n=50)			
Ba	- 2.3 ± 0.5	- 2.2 ± 0.7	- 2.1 ± 0.6
C	- 6.2 ± 1.1	- 5.6 ± 1.6	- 5.4 ± 1.8
Bp	- 1.9 ± 0.7	- 1.8 ± 1.0	- 1.6 ± 0.9

The severe cases of genital prolapse evaluated with the POP-Q are treated thoroughly and without recurrence after 48 months of follow-up, no differences between the laparoscopic group and the Crossen group.

As Table 2 shows that the two groups had very good results, there is no case to be relapsed and the results last after 48 months of follow-up. According to Vita de D. et al, the results returned anatomic landmarks almost normal and no recurrence after 18 months of follow-up.

3. RESULTS AND DISCUSSION

Table 3: Evaluation of postoperative pain level on the VAS scale

Group	1st day	3rd day
Laparo.group (n=12)	3.6 ± 1.1	1.6 ± 0.6
Crossen group (n=50)	5.5 ± 1.8	4.2 ± 1.8

VAS Scale assessment of pain after surgery, the patients of the Crossen group had higher pain level than group 1 ($P < 0.001$).
VAS Scale assessment of postoperative pain level also showed that the patients with laparoscopic technique have very little pain in postoperative time, while in the Crossen group, the patients have more pain.

3. RESULTS AND DISCUSSION

Table 4. The results of surgery, hospital stay duration and time of follow up

Result	**Laparo.(n=12)**	**Crossen (n=50)**	**T test**
Operative duration (minute)	125,6	78,8	P<0,001
(The ranges)	(85-245)	(45-118)	
Blood loss (ml)	30,2	45,7	NS
(The ranges)	(20-70)	(35-150)	
Hospital stay duration (day)	4,1	7,7	P<0,001
(The ranges)	(3-10)	(5-16)	
Duration of follow up	21	23	NS
(The ranges)	(3-48)	(2-46)	

NS = no significance

Blood loss is negligible. Blood loss during surgery was similar in both groups (30.2 ml compared to 45.7 ml in the laparoscopic group and in the Crossen groups respectively) but no significant changes in serum hemoglobin.
Laparoscopic time is significantly shorter than the time at the Crossen group (125.6 minutes compared with 78.8 minutes, P <0.001), and in the laparoscopic surgery group, patients were discharged from the hospital much earlier , 4.1 days (range is from 3 to 10) in the laparoscopic group, compared to 7.7 days (range is between 5-16) at the Crossen surgery group (P <0.001).
The average follow-up period is 21 months at the laparoscopic group (ranging from 3-48). The average follow-up period in the Crossen group is 23-months (ranging from 2-46), have not seen any cases of relapse.

3. RESULTS AND DISCUSSION

Table 5. Complications during and after surgery

Characteristics	Laparo. (n=12)	Crossen (n=50)	P
Complication during operation	1 (8,33%)	0	1,.00 (NS)
Postoperative complication	0	1 (2%)	0,69 (NS)
Urinary retention	0	1 (2 %)	0,69 (NS)
Incontinence	0	0	>0,99(NS)
NS = no significance			

In laparoscopic group , 1 case of bladder injury during surgery is detected and treated immediately in the operative duration. In the Crossen group, 1 case with vaginal cut snout infection have to treat for more than 2 weeks, 1 case of postoperative urinary retention for 7 days need rehabilitation therapy . Urine incontinent status has improved very well after surgery, 2 preoperative cases of urine incontinence in laparoscopic group and 11 cases in the Crossen group are no longer the situation after surgery.

The difference in complications occurred in both groups was not significant.

4. CONCLUSION

- The results of this study showed that in the research group:
The proportion of urine incontinence accounted for 20% and improved completely after surgery
Genital prolapse condition improved completely and no relapse after 48 months (POP Q Grading), while the uterus is still reserved in laparoscopic group. The postoperative pain condition is very low in laparoscopic group (VAS Scale). The complications during and after surgery is very low and can be repaired.
- Laparoscopy likely avoid the patients from a long open incision whose vulnerability to infection after surgery is much more, the patients heal better, shorten the length of hospital stay and have all the benefits of a minimally invasive surgery, such as less pain, less scarring and a shorter recovery time.

Thank you for listening