

— , Lichtenstein, —

A Comparing Study of Herniorrhaphies — Laparoscopy, Lichtenstein and Conventional Repairs —

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Purpose: The optimal surgical technique for inguinal hernia repair continues to be debated. This study was designed to investigate optimal surgical procedures in inguinal or femoral hernia.

Method: We analyzed 153 cases of herniorrhaphy on inguinal or femoral hernias between August 1996 and November 2000. We divided patient into four groups according to the methods of hernia repair, i.e., 1) 78 cases of laparoscopic herniorrhaphy, 2) 42 cases of Lichtenstein herniorrhaphy, 3) 24 cases of Bassini herniorrhaphy and 4) 9 cases of McVay herniorrhaphy.

Results: The patient in the laparoscopic and Lichtenstein herniorrhaphy groups needed shorter hospital stays than those in the Bassini or McVay herniorrhaphy groups. The severity of pain was assessed by the total amount and duration of nonsteroidal anti-inflammatory drug injections, which was minimal in the laparoscopic group. There were no differences in complications between the groups. One patient in the laparoscopy group had a hernia recurrence and was reoperated with Lichtenstein herniorrhaphy. We compared two tension-free herniorrhaphies with each other. The numbers of patients not needing analgesic injections were more in the laparoscopic than the Lichtenstein herniorrhaphy group, reflecting less pain in the former group. Hospital stays were also shorter in the laparoscopic than the Lichtenstein herniorrhaphy group.

Conclusion: We concluded that tension-free herniorrhaphy is superior to tension herniorrhaphy in terms of postoperative

pain & recovery. Of the tension-free herniorrhaphies, laparoscopic herniorrhaphy is associated with less postoperative pain and shorter hospital stays than Lichtenstein herniorrhaphy. (*J Korean Surg Soc* 2002;63:57-62)

Key Words: Laparoscopic herniorrhaphy, Lichtenstein herniorrhaphy, Tension-free herniorrhaphy, Lichtenstein

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700,000 (1)
80,000 (2)
가 Bassini McVay
1989 Lichtenstein(3)
mesh
(4)
Bassini McVay
Lichtenstein

1)
1996 8 2000 11 52

가 153

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SPSS for windows Release 7.5 version
 Crosstable, chi-square test, one way ANOVA
 independent sample T-test, post hoc multiple comparison P < 0.05

(4 , 65) . 153
 가 37 (21 , Lichtenstein 9 , Bassini 6 , McVay 1) , 116 2002 3

2)

(1) : 78
 , Lichtenstein 42 25 (59.5%)
 , 17 (40.5%)
 Bassini 24 11 (45.8%)
 12 (50.0%) 1 (4.2%)
 . McVay 9 4 (44.4%)
 , 5 (55.6%)

(2)

① ; (TAPP; Trans-Abdominal PrePeritoneal herniorrhaphy)

. 2 3 cm
 가 Veress
 CO₂ . 10 mm (0) (5 mm)
 ,
 5 mm ()
), 10 mm ()
 5 7 cm 가

transabdominis aponeurotic arch ,
 , Cooper
 polypropylene mesh
 Cooper , aponeurotic arch가
 hernia clip . hernia clip 3-0 vicryl
 ② Lichtenstein ;
 Bassini McVay
 polypropylene mesh
 conjoined tendon, iliopubic tract,
 transabdominis aponeurotic arch ,

, mesh prolene
 vicryl .
 ③ Bassini , McVay ;

1)
 153 Table 1
 15 87 , 56.1
 6.8 (3 , 20) ,
 4.4 (1 , 17) .
 93.9 (30 , 225) . 가 142
 (92.8%), 가 11 (7.2%) 가 .
 가 가 8
 (5.2%), 가 9 (5.9%) .
 87 (56.9%), 53 (34.6%), 13 (8.5%)
 , 119 (77.8%), 30 (19.6%),
 4 (2.6%) . 1 1 가 71
 (46.4%) 가 , 1 60 (39.2%), 1
 가 22 (14.4%) .

Table 1. Patient Demography (n=153)

	Average	Range
Age	56.1	(15 87)
Follow up duration (mo)	37.9	(4 67)
Hospital stays (day)	6.8	(3 20)
Postoperative stay (day)	4.4	(1 17)
Operation time (min)	93.9	(30 225)

Male : Female (%) 142 (92.8%) : 11 (7.2%)
 Number of recurrent hernia 9 (5.9%)

Type of hernia	Right	Left	Bilateral	Total (%)
Indirect	71	37	11	119 (77.8)
Direct	15	13	2	30 (19.6)
Femoral	1	3	0	4 (2.6)
Total(%)	87 (56.9)	53 (34.6)	13 (8.5)	153 (100)

Duration of hernia history	No	%	Average	Min.	Max.
More than 1 yr.	60	39.2	5.6 yr.	1	40
1 mo. 1yr.	71	46.4	2.7 mo.	1	10
Less than 1 mo.	22	14.4	9.5 day	1	20

Table 2. Clinical outcomes according to the operations

	Lab	L	B	M	Significance [†]
No. of patient (%)	78 (51.0)	42 (27.5)	24 (15.7)	9 (5.9)	—
Age	53.2±19.4	58.9±13.1	57.6±15.9	64.4±13.3	ns [§]
Sex (M : F)	72 : 6	40 : 2	21 : 3	9 : 0	ns
Operation time (min)	99.9±32.9	91.2±27.4	70.8±24.1	115.6±54.9	0.001*
Duration of postoperative stay (day)	3.3±1.6	4.5±1.6	6.3±3.0	7.4±3.1	0.001*
Total analgesics injected	1.8±2.5	2.4±2.8	2.5±2.5	5.7±7.3	0.004*
No. of pt not needing analgesic injection	34 (43.6)	10 (23.8)	5 (20.8)	1 (11.1)	0.027*
Duration of Mep [†] injection (day)	0.2±1.6	0.8±1.9	0.6±1.6	1.8±4.2	ns
No of Mep [†] injection	1.7±2.4	2.3±2.8	2.4±2.6	4.9±7.7	0.028*

Lap = laparoscopic herniorrhaphy group; L = lichtenstein herniorrhaphy group; B = Bassini herniorrhaphy group; M = McVay herniorrhaphy group. *P<0.05; [†]chi-square test for categorial variables, one-way ANOVA for continuous variables independent sample T-test / post hoc multiple comparison to compare each group; [†]mepharen^R (diclofenac sodium); [§]not significant.

2)

(Table 2)

4
(51.0%), Lichtenstein (L) 78
(27.5%), Bassini (B) 42
(15.7%), McVay (M) 9 (5.9%)
M 115.6±54.9
, 99.9±32.9, L 91.2±27.4, B 70.8±24.1
(post hoc test)
B (P=0.001), M B (P=0.003)
3.3±1.6, L 4.5±1.6, B 6.3±3.0, M 7.4±3.1
L (P<0.001), B (P<0.001), M (P<0.001)
, L B (P=0.003), M (P=0.001)

3)

(Table 2)

(diclofenac sodium; Mepharen^R) Demerol (Pethidine HCl)
Mepharen, Demerol
rol 13 Mepharen 10 (23.8), B 5 (20.8), M 1 (11.1)
Mepharen Demerol
1.8±2.5, L 2.4±2.8, B 2.5±2.5, M 5.7±7.3

Table 3. Complications and recurrence

	Lab	L	B	M	Significance*
Urinary difficulty	12	7	6	2	ns [†]
Short term complications	5	1	1	0	ns
Wound infection	0	1	1	0	
Cordcele or hydrocele	4	0	0	0	
Spermatic cord pain	1	0	0	0	
Long term complications	6	7	0	0	ns
Op site discomfort	4	7	0	0	
Op site swelling	2	0	0	0	
Recurrence	1	0	0	0	

Lap = laparoscopic herniorrhaphy group; L = lichtenstein herniorrhaphy group; B = Bassini herniorrhaphy group; M = McVay herniorrhaphy group. *chi-square test; [†]not significant.

M 3
Mepharen
1.7±2.4, L 2.3±2.8, B 2.4±2.6, M 4.9±7.7
가
Mepharen
M (P=0.02).
가 34 (43.6), L
10 (23.8), B 5 (20.8), M 1 (11.1)
, L (P=0.032), B (P=0.045)
가 Mepharen

Table 4. Comparison of laparoscopic and lichtenstein herniorrhaphy

	Laparoscopic	Lichtenstein	Significance [†]
No of Pt. (%)	78 (51.0)	42 (27.5)	—
Age	53.2±19.4	58.9±13.1	ns [‡]
Sex (M : F)	72 : 6	40 : 2	ns
Op time (min)	99.9±32.9	91.2±27.4	ns
Duration of postop. stay (D)	3.3±1.6	4.5±1.6	0.001*
Total analgesics injected	1.8±2.5	2.4±2.8	ns
No. of pt not needing analgesic injection	34 (43.6)	10 (23.8)	0.032*
Duration of Mep injection (day)	0.2±1.6	0.8±1.9	ns
No of Mep injected	1.7±2.4	2.3±2.8	ns
Urinary difficulty	12	7	ns
Short term complications	5	1	ns
Long term complications	6	7	ns
Recurrence	1	0	

*P<0.05; †chi-square test for categorial variables, one-way ANOVA for continuous variables; ‡ not significant.

4) (Table 3)

L, B 1
4
3, 1
().
1 가 . 6 ()
2 , 4), L 7 ()
7) . 27
, 21 , 1
1 , 2 가 4 ,
12 가 , L 7 , B 6
, M 2 .
1 Lichtenstein

5) Mesh (Table 4)

L
, Mepharen

가 34 (43.6), L
10 (23.8)
3.3±1.6 L 4.5±1.6
(Bassini ,
McVay)
1989 Lichtenstein mesh
(tension-free)
(tension)
가
가
Tschudi 5) (TAPP; TransAb-
dominal PrePeritoneal) Shouldice
3.3
Lichtenstein 4.5 , Bassini 6.3 , McVay
7.4 가
Lichtenstein
demerol (Me-
pharen^R) demerol Mepharen^R
, Mepharen
가
가 , Lichtenstein , Bassini , McVay
가
Lichtenstein
, Mepharen
가
가

가 가 가 . McVay Lichtenstein Bassini 가

4 . stein 가

1 1996 8 2000 11 52

(). 153 , ,

Lichtenstein , Me- pharen 1) 78 , Lichtenstein , 42 , Bassini 24 , McVay 가 가

. Smith (6) 2) 56.1 , 가 142 (92.8%) 5 (5.9 %), 87 (56.9%), 53 (34.6 %), 13 (8.5%) , 119 (77.8%), 30 (19.6%), 4 (2.6%) . 4.4 , 93.9

Lichtenstein 1 , 3) 4 , 0.3% 8.5% mesh 가 L B, M (7) ()가 가 4) , Mepharen , 가 mesh가 10×15 cm Mepharen 2 3 mesh가 20×15 cm 5) , , mesh가 .(8) 6) 1 Lichtenstein .(9) mesh가 7) L , , , 가 L 가

가 , 가 (learning 가

curve), 가 , 가

.(6)

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