168

Niimi A[1], Kimura N[1], Nomiya A[1], Yamada Y[1], Azuma T[1], Suzuki M[1], Fujimura T[1], Nakagawa T[1], Fukuhara H[1], Kume H[1], Igawa Y[2], Homma Y[1]

1. *The University of Tokyo, Department of Urology,* ***2.*** *The University of Tokyo, Department of Continence Medicine*

SURGICAL OUTCOMES OF TOTAL CYSTECTOMY WITH ILEAL CONDUIT AND SUPURATRIGONAL CYSTECTOMY WITH AUGUMENTATION CYSTOPLASTY FOR END-STAGE INTERSTITIAL CYSTITIS

Hypothesis / aims of study

Although the etiology of interstitial cystitis (IC) is largely unknown, clinical guidelines so far published recommend a variety of treatment modalities, with cystectomy or augmentation cystoplasty mentioned as the last resort.[1-3] However, few literatures compared the outcomes of cystectomy and cystoplasty. The aim of this study is to compare surgical outcomes of these invasive surgical procedures indicated for end-stage IC.

Study design, materials and methods

The single institutional data were retrospectively analysed to evaluate outcomes of patients with refractory IC who received either total cystectomy or supratrigonal partial cystectomy with augmentation cystoplasty. Between 2002 and 2013, three patients received partial cystectomy with augmentation cystoplasty using ileal segment and five patients, total cystectomy with ileal conduit (Table 1). To evaluate the surgical efficacy, severity of symptom was assessed before and after the operation by self-report questionnaires, which include O'Leary and Sant's symptom index and problem index (OSSI and OSPI), visual analogue scale for pain (VAS) and International Prostate Symptom Score QOL index. Postoperative complications were also analysed. Differences between groups were assessed by t-tests and Mann-Whitney U tests. Log rank test was used to compare symptom free survival duration. The post-operative VAS more than 2 was defined as 'recurrence of pain' and the post-operative 24-hour urinary frequency more than 10 was defined as 'recurrence of pollakisuria'.

Results

The mean follow up period of augmentation cystoplasty cases and total cystectomy were 105 months (range: 63-180 months) and 56.8 months (range: 12 -144 months), respectively. All cases of augmentation cystoplasty had symptomatic recurrence in the early post-operative period, while no patient receiving total cystectomy had symptomatic recurrence (Figures 1, 2, Table 3). Two of three patients with augmentation cystoplasty were inducted clean intermittent catheterization (CIC) because of bladder pain in storage phase, and the remaining one patient had similar symptoms but refused to do CIC. Among the 5 patients underwent cystectomy with ileal conduit, one case developed ileal conduit-ureteral anastomotic stenosis and another case was with depression due to change in body image. Satisfactory rate was significantly higher in total cystectomy cases (p=0.01) (Table 2), and QOL scores significantly improved in total cystectomy cases alone (Figure 3).

Interpretation of results

In this study, augmentation cystoplasty had no benefit for symptom improvement (Table 2). Since trigonal area of the bladder and urethra were conserved, remaining inflamed tissue could cause persistent symptoms. On the other hand, patients undergoing total cystectomy had no symptomatic recurrence and QOL index improved significantly. (p=0.0003) (Table 2). There are 12 previous literatures, totalling in 50 cases of total cystectomy and 141 cases of supratrigonal cystectomy with augmentation cystoplasty. In cystectomy cases, 4 (8%) had symptomatic recurrence whereas 35 (24.8%) of augmentation cystoplasty cases had remaining pain and 25 (17.7%) finally had the remaining bladder resected during follow up. According to our result and previous literatures, total cystectomy is more effective than augmentation, although it is more invasive and may be associated with adverse effects.

Concluding message

Augmentation cystoplasty is less invasive than cystectomy in terms of no need of urinary diversion yet may be less efficacious to resolve the symptoms. Total cystectomy rather than augmentation would be indicated as the last resort for end-stage IC to relieve the intractable symptoms after thorough consultations with patients.

Table 1 Patient demographics at surgery

	Supratrigonal partial cystectomy with augmentation cystoplasty (n=3)	Cystectomy with ileal conduit (n=5)	*P* value
Mean age	59.6	71.8	-
Sex (M:F)	3:0	4:1	-
Mean no. of previous hydrodistension	3	3	-
Mean no. of daytime urinary frequency	21.0	31.0	0.18
Mean no. of nighttime urinary frequency	3.0	7.2	0.15
Mean Single Voided volume (ml)	75	58	0.52
Mean OSSI	18.7	14.7	0.27
Mean OSPI	15.3	11.3	0.34
Mean VAS	6.7	6.3	0.91
Mean QOL	5.0	5.3	0.9

Table 2 Postoperative symptomatic outcomes (mean)

	Supratrigonal partial cystectomy with augmentation cystoplasty n=3	Cystectomy with ileal conduit n=5	*P* value
Pain free duration (months)	6.7	51.2	0.022
Pollakisuria free duration (months)	5.3	51.2	0.028
OSSI after operation	13.5	-	<0.0001
OSPI after operation	11	-	<0.0001
VAS after operation	6.7	0.5	<0.0001
QOL after operation	5.0	1	0.0023

Table 3 Surgical outocomes

Patient number	Operative time (min)	Blood loss (ml)	Post operative complications	outcome	Satisfied with outcome
AC 1	249	1460	none	CIC	no
AC 2	220	580	none	CIC	no
AC 3	unknown	unknown	none	Repeated hydrodistension	no
Cx 1	352	555	none	no complaint	yes
Cx 2	339	2160	Af	depression	no
Cx 3	328	1680	Ileal conduit–ureteral anastomotic stenosis	Prolonged ureteral stent placement	yes
Cx 4	375	2470	none	no complaint	yes
Cx 5	410	600	none	no complaint	yes

AC: supratrigonal cystectomy with augmentation cystoplasty
Cx: total cystectomy with ileal conduit

Figure 1 Symptom free survival rate (pain)

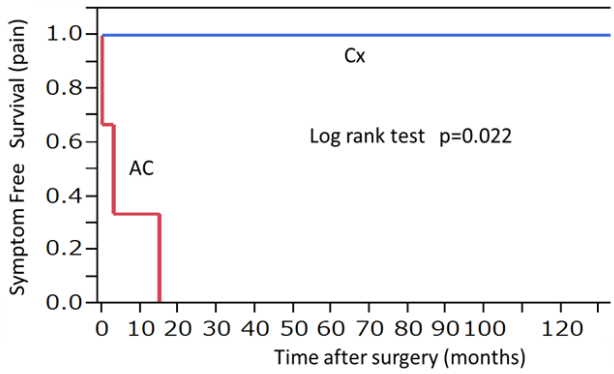


Figure 2 Symptom free survival (pollakisuria)

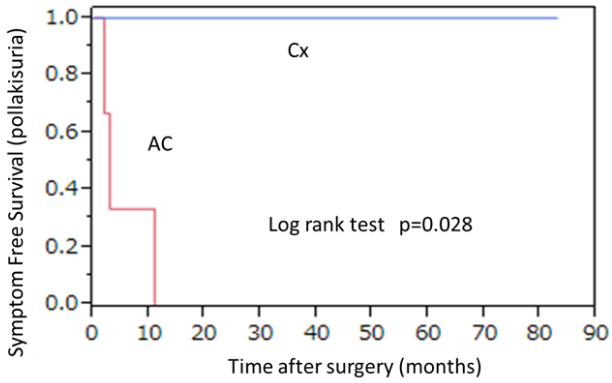
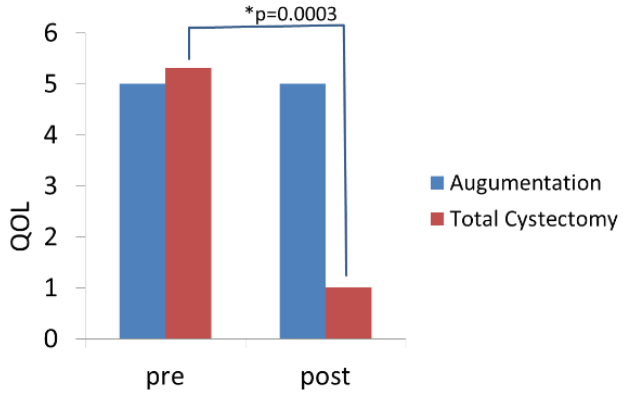


Figure 3 Pre and post operative QOL score



References

1. Homma Y et al. Clinical guidelines for interstitial cystitis and hypersensitive bladder syndrome. Int J Urol. 16:597-615, 2009
2. van de Merwe JP et al. Diagnostic criteria, classification, and nomenclature for painful bladder syndrome/interstitial cystitis: an ESSIC proposal. Eur Urol 53(1):60-7, 2008
3. Hanno PM et al. AUA guideline for the diagnosis and treatment of interstitial cystitis/bladder pain syndrome. J Urol. 185(6):2162-70, 2011

Disclosures

Funding: MEXT KAKENHI Grant-in-Aid for Scientific Research (C)24592422 **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** University of Tokyo Hospital Ethics Committee **Helsinki:** Yes **Informed Consent:** Yes