EVALUATION OF PARTIAL CYSTECTOMY AS COMPARED WITH ANTERIOR EXENTERATION IN UTERINE CERVICAL CANCER WITH BLADDER INVOLVEMENT.

by

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In consideration of the annoying inconvenience resulting from urinary diversion in spite of inconstant encouraging end results, we have performed 11 cases of partial cystectomy with or without ureter implantation instead of complete cystectomy in advanced carcinoma of the uterine cervix where anterior exenteration is indicated. Five of our 11 cases died within 8 months and 6 are still living and well. The result should be considered gratifying as compared with only one survival among 5 anterior exenteration cases, particularly in view of the less extensive, more conservative procedure with less operative risk and the absence of inconvenience from the unnatural urinary diversion.

Anterior exenteration with ureterosigmoidostomy has been indicated in a few selected cases of advanced carcinoma or persistent carcinoma of the uterine cervix after primary irradiation in the authors' clinic. However, owing to the extensiveness of the surgery, pelvic infection, urinary tract infection and electrolytes imbalance, the outcome was not always encouraging. As reported elsewhere, since 5 years ago we have diverted the urine to distal rectal end and the feces from the artificial anus with proximal sigmoid. Through this procedure electrolytes imbalance and ascending infection could have been avoided, however, the patients who have undergone this procedure still suffer from some distress and inconvenience on urination from the anus.

In an effort to preserve a physiological function of the kidney and the bladder, the authors have attempted a modified anterior exenteration consisting in a partial resection of the bladder wall infiltrated by cancerous tissue, with or without implantation of the ureter, instead of carrying out a total cystectomy with diversion of the urine.

The authors' experiences with 11 cases operated on by this modification since 1962 are presented in the present paper to make an evaluation of this modification as compared with anterior exenteration in uterine cervical cancer with bladder involvement.

MATERIALS

Since Jan. 1962, 11 cases of cervical cancer with bladder involvement have been operated on with the modification. The clinical and pathological features as well as prognosis are tabulated in Table. 1. For comparison, 4 cases of anterior exenteration with ureterosigmoidostomy carried out during the same period are tabulated in Table. 2.

METHOD

The operative procedure is as follows.

On opening the abdominal cavity, a careful evaluation of the extent of the disease was made. When the bladder was involved

Table. 1. Partial Cystectomy with or without Reimplantation of Ureter

Patient	Clinical stage	Pathology	Postoperative adjuvant therapy	Outcome	Duration of survival
H 64-20 Shi AK	IV	Adenocarcinoma Corpus Ovary, omentum lymph node Ureter, transitional cell carcinoma Bladder	 + + + +	Died Paralytic ileus low salt syndrome	1 m
H 66-52 Chen LY	IV	Epidermoid Vagina Parametrium Lymph node Bladder	 – – 11/34 +	Died Pelvic infection Thrombophlebitis	6 m
H 67-92	IV	Epidermoid Corpus Vagina Parametrium Lymph node Bladder muscle layer	Radium + Co^{60} + + 0/24 +	Died Rectovaginal fistula Recurrence	6 m
T 56415 Chen PTM	IV	Epidermoid Corpus Vagina Parametrium Lymph node Bladder	Mitomycin + + + 3/19 +	Died Chr. pyelo-nephritis Uremia	8 m
T 56305	IV	Epidermoid Vagina Parametrium Lymph node Bladder	Mitomycin + + 4/30 +	Died Uremia	4 m
H 62-63 Cheng YPH	IV	Epidermoid Corpus Vagina Parametrium Lymph node Bladder	Toyomycin + + + 2/17 +	L & W	6 yr 7 m
H 63- Wu PT	IV	Epidermoid Corpus Vagina Parametrium Lymph node Bladder	Co^{60}	L & W vesico-vaginal fistula, repaired	4 yr 11 m
T 54-309 Yang CT	IV	Epidermoid Vagina Parametrium Lymph node Bladder	Mitomycin + – 0/20 +	L & W	3 yr 4 m
H 66-28 Ou LC	IV	Epidermoid Vagina Parametrium Lymh node Bladder	Toyomycin + Mitomycin + Co^{60} 7/26 +	L & W vesico-vaginal fistula, repaired	2 yr 6 m
T 56424 Su CA	IV	Adenocarcinoma Vagina Parametrium Lymph node Bladder	 + + 0/20 +	L & W	1 yr 6 m
H 67-66	IV	Epidermoid Corpus Vagina Parametrium Lymph node Bladder	 + + + 1/32 +	L & W	1 yr 3 m

Table. 2. Anterior Exenteration with Uretero-sigmoidostomy

Name	Clinical stage	Pathology	Adjuvant therapy	Outcome	Duration of survival
50067 Chen TK	IV	Epidermoid Ca. Cervical canal Vagina Parametrium Lymph node Bladder papillomatous mass	Co^{60} + − − 0/16 +	L & W	7 yr 4 m
52241 Cheng H	IV	Epidermoid Ca. Vagina Parametrium Lymph node Bladder muscle layer	 − − 0/19 +	Died Uremia	2 m
54198 Tu T	IV	Epidermoid Ca. Corpus Vagina Parametrium Lymph node Bladder protruding mass	 + + + 8/38 +	Died Uremia	8 m
H 65-58 Wong U	IV	Epidermoid Ca. Corpus Vagina Parametrium lymph node Bladder muscle layer	Radium + Co^{60} + (prior to + operation) 15/65 +	Died Ileus Cachexia	3 m

the affected bladder wall was resected in continuity with Okabayashi radical panhysterectomy. The lower part of the ureter was resected when it was involved with cancerous tissue. Bladder reconstruction with or without ureter implantation was easily accomplished with fine cat-gut. When the ureter was too short to be implanted to the bladder Boar's operation was performed, i.e. flap of the bladder was used to construct a part of ureter. Ureter implantation was performed mucosa to mucosa. An indwelling catheter was left in situ for 2-3 weeks after the operation.

RESULT

(1) Endresults:

Of 11 cases, 5 or 45.4% died within 8 months after the operation. Of these 5 cases, one death may have been categorized into primary mortality. The patient died of paralytic ileus and electrolyte imbalance one month after the operation. One died because of early recurrence 6 months after the operation. Two died of urinary tract infection and uremia which may have been related to the use of Mitomycin C and less directly related to the operation itself. One died of pelvic infection and thrombophlebitis half a year after the operation.

Of 4 cases of anterior exenteration with uretero-sigmoidostomy, only one has survived up to the present, 7 years and 4 months after the operation. Two died of uremia 2 and 8 months after the operation, respectively. One died of intestinal obstruction and cachexia, 3 months after the operation.

(2) Complication

As shown in Table 3, the main complications were fistula formation, urinary tract

Table. 3. Complications

Vesico-vaginal fistula	2
Recto-vaginal fistula	1
Chronic pyelonephritis	1
Uremia	2
Pelvic inflammation	1
Thrombophlebitis	1
Intestinal obstruction	1

inflammation, pelvic inflammation, thrombophlebitis or intestinal obstruction.

COMMENT

For some selected cases of advanced carcinoma or persistent carcinoma, a total or partial exenteration may be the last resort,[2,3,4,7] in spite of its great risk. The primary operative mortality is high in the order of 10-20%[2,6,7] Morbidity is also high. Postoperative "blow out" of large pelvic vessels,[5] urinary fistulae (12%),[6] intestinal fistulae 13.5[5]-14.8 %)[6], pelvic inflammation, urinary tract infection (2.7%)[6], uremia (5.5%)[6] or intestinal obstruction (3.7%)[6] have been the common complications. The five-year survival is poor, according to Brunschwig[3], of the 503 patients treated by anterior or total pelvic exenteration with diversion of the urine, 99 or 19.6% survived 5 years, but of these 29 died subsequenily. Clark, Daniel & Brunschwig[5] indicated that the prognosis of patients with intestinal fistula was particularly grave. Of 87 cases, only 9% survived 5 years. Rutledge & Burns[6] reported a 20% survival rate among a series of 108 patients. In discussing the latter paper, Munnell plated there was only one 5-year survivor out of 44 pelvic exenterations done for recurrent malignancies. In the light of its high mortality and serious complications and low cure rate, TeLinde[8] is strongly opposed to this kind of radical surgery. Anterior exenteration was done for only 4 cases in our clinic during the past seven years, and only one survived up to the present. Uremia was the main cause of death. Trying to mutilate the effects of extensive surgery, Atherton, Moore & Haynes[1] recently, proposed a procedure consisting in resection of bladder base and distal ureter in continuity with a Wertheim hysterectomy, followed by bladder reconstruction and ureterovesical implantation. Their ideas completely coincides with those of ours Principally, our modified technique is much the same as that of Atherton et al. In some instances where the cancerous involvement is mild, our resection of the bladder is less extensive leaving the normal ureter in situ. It should be pointed out that all of our cases did not undergo any form of irradiation prior to operation while all the cases of Atherton et al had intensive and excessive irradiation before the operation. According to their report, satisfactory results were obtained in 7 of 10 patients. Two vesicovaginal fistulae, 2 bilateral hydronephrosis, 6 unilateral hydronephrosis were noted. However, no mention was given of the outcome of those patients.

The final results in the present series are rather satisfactory as compared with the results in cases of anterior exenteration, though no definite conclusive significancy could be obtained from such a small series. The mortality and morbidity seemed reduced. And, we believe that, considering these cases with partial cystectomy should have had less extensive involvement of the bladder as compared with the cases with anterior exenteration if the bladder involvement is not far too extensive, the present modified procedure offers a chance of survival, at worst, not less than anterior exenteration does.

SUMMARY

Since Jan. 1962, we have performed 11 cases of partial cystectomy with or without ureter reimplantation in continuity with Okabayashi radical hysterectomy on patients of cervical cancer with bladder involvement. Of the 11 cases, 6 survived while only one out of 4 anterior exenterations survived. Mortality and morbidity seemed reduced. In cases where the bladder involvement was less extensive, the present conservative modification may be justifiabe. A long term follow-up study is warranted.

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膀胱部份性切除術對於已有膀胱浸潤之子宮頸癌的價值

臺北醫學院婦產科

鄭永盛 徐千田 林其祥

子宮頸癌，如有膀胱浸潤時，必須施行 Anterior Exenteration，可惜結果不甚佳，因開刀範圍太廣，又需將尿管移植腸，以致發生各種後遺症，而於短時間內死亡，自從1962年開始，我們改變手術方法，儘量做膀胱之部份性切除，保留其作用，到1968年10月爲止總共有11名病人接受本開刀，結果11名中5名在開刀後八個月以內死亡，尚有6名生存，主要後遺症爲尿瘻，腸瘻，膀胱腎盂炎，骨盆死腔炎等，其開刀侵襲 (Operative risk) 似乎比 Anterior Exenteration 小，但結果反而較佳。