# Radical Surgery in Cervical Cancer Survivors: Shat is the Matter of Concern in Low-Resources Societies?

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### ABSTRACT

**Background & Objective:** Pelvic exenteration and other types of super-radical procedures are the standard of care in the management of patients with recurrent or persistent cervical cancer. But, since the extent of surgery and possible morbidities are considered as an important challenge in low-resource countries, there is need to investigate the outcomes of similar patient.

Materials & Methods: The present study tries to report the successful outcome of radical surgery in detailed in 7 cases in a low-economic setting

**Results:** Total Pelvic exenteration was performed in three but free margin could be achieved by less radical approach in others. All were alive up to 5yaers of follow-up.

**Conclusion:** What we had noticed was the excellent survival prognosis even in curative intent. It is highly recommended, considering the psychological effect of such an extensive surgery and quality of life in these patients with advanced disease and loss of hope.

Keywords: Pelvic exenteration, Uterine cervix neoplasm, Radical, Recurrence, gynecology, Persistent

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#### Introduction

Pelvic exenteration (PE) as a super-radical surgery had been described for the first time in 1948 with the aim of last line choice in cases with central-pelvic recurrence of gynecological or colorectal cancers (1). Since then, eliminating the extension of operation alongside with obtaining the free tumoral margin, came into focus (2, 3). Moreover, selecting properly the best candidate for such an extended surgery, with palliation or cure intent, remains as a matter of concern. Regarding this, in an experienced hand, the most important points are the absence of distant metastasis and having acceptable health performance (4-6). Although, there is more than half a century experience on this surgical hope, the restricted knowledge of the feasibility and prognosis of this super-radical surgery in gynecologic cancers, especially in low resources countries had provoked us to try it at our tertiary center in skilled hand and with precise multidisciplinary consultation in each situation.

### Methods

This prospective study was conducted at an academic hospital in Mashhad, one of the largest cities in Iran, from 2014 to 2019. The preliminary inclusion criteria for such a radical surgery were patients with documented tissue-biopsy of persistent or recurrent cervical cancer, who had no sign of distant metastasis in pre-operative workup consisting of physical examination, magnetic resonance imaging (MRI), and PET/CT scan. The other important point in included cases was their physically and mentally eligibility for such a super-radical surgery. The candidates were consulted by a multidisciplinary team including the oncological surgeon, urologist, oncologist, psychologist, pathologist, and radiologist. The informed consent was obtained from all the patients before entering the program. Patients underwent surgery with a midline incision, which was followed by para-aortic lymph-node (PA-LN) and pelvic-wall sampling to exclude the tumoral involvement by frozen section study. After confirming the feasibility of surgery, resection of the involved pelvic organs was started, with sought to achieve a microscopic free margin. All patients were hospitalized until fully mobilized and bowel movement done, with an order of prophylactic anti-thromboembolic-agent. Regular follow-up visits were done up to present time.

### Results

There were totally 8 eligible patients, in whom tumoral recurrence was diagnosed by image-guided

tissue sampling in 7 and tumoral-persistence in the other one. The median age of patients was 53.4 years. Total PE was performed in three due to tumoral involvement of the rectosigmoid and bladder. But free margin could be achieved by anterior PE with neocystostomy and bilateral ureter reimplantation (Boari flap) in one. The other 3 patients underwent type-3 radical hysterectomy or partial vaginectomy and parametrectomy. It is notable to describe the last case outcome, whose diagnosis of tumoral recurrence was found only after two years of radical surgery and adjuvant radiotherapy. In the mentioned case, unfortunately the surgery was abrupted because of histologically positive PA-LN and she died in less than two months with a diagnosis of major depression, anorexia and loss of hope. The patients' characteristics are detailed in the Table 1.



Cervical cancer	Case1	Case2	Case3	Case4	Case5	Case6	Case7
Age (years)	45	49	58	54	61	52	38
Gravidity	8	2	6	4	6	4	2
Family history of cancer	-	-	Colon cancer in first relative ×2	-	-	-	-
Smoking/addic tion	-	-	+	-	+	+	-
Primary diagnosis (the first time)	(2014) SCC - stage IIB	(2014) Adenocarcino ma, after subtotal hysterectomy due to massive pelvic adhesion	(2014) SCC- stage IB1	(2017) Adenocarcino ma-stage IIIA	(2017) SCC- stage IIB	(2015) SCC -stage 1A2	(2016) SCC After performin g subtotal hysterecto my by non- skilled surgeon
Co-morbidity	Anemia	-	Hypertensi on- Type 2 Diabetes Mellitus – hypothyroi d (enlarged goiter)	Hypertension	Minor depression	-	-
Preoperative physical examination findings	Tumor in the 1/3 of upper vagina with rectal wall involveme nt.	Tumor in parametrium with bladder wall involvement.	A large mass in the vaginal vault.	A large cervical mass extended to mid vaginal wall	Large mass in the vaginal vault.	Large mass in the vaginal vault.	Large mass in cervix and Parametriu m.
Preoperative MRI (tumoral involvement)	(Figure 1)	Bladder and parametrium.	Bladder wall thickening	Mass in size of 2 cm at cervix with bladder wall thickness	Cervical mass with abnormal	Bladder wall thickness (reactive to prior-RT)	Mass in size of 4cm in cervix.

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Cervical cancer	Case1	Case2	Case3	Case4	Case5	Case6	Case7
			(reactive to prior-RT)	(reactive to prior-RT)	enhanceme nt.		
Operation details	En-block resection of uterus, bilateral adnexa, vagina, bladder, bilateral distal part of ureter, upper urethra, rectum, (supraleva tor method), with emplacem ent of ileal conduit, colostomy , ureter and urethra re- implantati on to neo- bladder (urinary diversion and double–J stent placement ).	En-block resection of stump of cervix, vagina, bladder, bilateral distal ureter, upper urethra, rectum (supra-levator method), alongside with ileostomy, colorectal anastomosis, and ureter and urethra re- implantation to neo-bladder (urinary diversion with double–J stent placement).	En-block resection of upper part of vagina, bladder, posterior and lateral involved wall, distal ureter in left side, making Boari flap, neo cystostomy , ureter Re- implantatio n and diversion, and double J- stent placement.	Type 3 radical hysterectomy with vaginectomy (With palliative aim).	Type 3 radical hysterecto my and vaginecto my.	Total vaginectomy and complete parametrecto my.	En-block resection of Cervix, bilateral adnexa, vagina, bladder, bilateral distal part of ureter, upper urethra, and rectum (supra- Levator method) with performin g ileal conduit, colostomy, ureter and urethra re- implantati on to neo- bladder, and urinary diversion with double –J stent placement.
Prognosis	Alive. No recurrence s	Alive. No recurrences	Alive. No recurrence	Alive. No recurrences	Alive. No recurrence s	Alive. No recurrences	Alive. No recurrence s
PRI- OPERATIVE COMPLICATI ON	Urinary fistula to vaginal wall	Pyelonephritis and renal failure	Deep vein thrombosis	Cellulitis of symphyses of pubic	Intestinal volvulus with need for re- laparotomy	Intra- abdominal Urinary leakage	Wound infection
Median operation time(h)				4 hours			
Median blood loss(ml)				2000			
Median volume of PC transfusion				750 unit			
Median time of ICU admission				3 days			
Median time of hospital stay				12 days			

P MRI: pelvic Magnetic resonance imaging, A CT: abdominal Computerized Tomographic scan, CRT: chemo radiotherapy, LND: lymph node dissection, Neg.: negative, NL: normal, LVI: lymph vascular invasion, +/-: Positive/negative, ICU: intensive care unit, SCC: squamous cell carcinoma.



**Figure 1.** P MRI; extension of the tumor to adjacent organ in the pelvis (A & B: with & without contrast: sagittal view); C) Surgical specimen of total PE; D) Pathologic study (H&E 100×): Proliferation of atypical squamous cell with mitosis and nuclear pleomorphism with invasion to stroma

#### Discussion

The preliminary purpose of PE was palliative intent in recurrent or persistent cervical cancer (4, 5), but the present study established its curative potential in the precisely selected patients and multidisciplinary consultation. Smith B et al. also believed on the vital role of tumor size and surgical margins status on prognosis (7). As mentioned before, there are limited trials in low resources settings. Uzan et al. had reported 3 out of 5 recurrences after laparoscopic exenteration, and Maharaj et al. described the experience of single PE (8, 9). So, according to one of the largest studies by Schmidt et al., the cons and pros of these supra-radical surgeries should be mentioned in patient consultation, in other word describe the risk of long-term complications like what had happened in some cases in the present study in compare with 60% chance of adding survival benefits (10). These statistics differ based on patient characteristics and absolutely the surgeons' experience, which is in about 57% and 73% respectively in Young et al. study (11). Above that, one of the most highlighted points in upgrading the surgical prognosis and the strongest pint in present study was timely decision for taking action in recurrences (12, 13). The last point that needs to be more evaluated in future is the value of psychological consultation appointment not only before, but also after surgery. This must be taken into consideration, especially in cases who developed post-operative complications or who had not successful surgery. It is unfortunate that we missed the last case not due to the underlying disease, but because of mood deterioration and loss of hope. Moreover, our restricted resources in providing the ability of intra-operative-radiotherapy should be given more attention in other low economic societies to rise the chance of saving life in cases with no opportunity in surgery (7, 14, 15).

#### Conclusion

Regarding the desirable rate of survival in the present study, the most important limitation is lack of life quality assessment in these survived patients that could be affected mostly by surgical complications and highly recommended to be noticed in future trials.

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# **Conflict of Interest**

None.

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