Clinical outcomes of patients after radical surgery for locally advanced cervical cancer treated with neoadjuvant chemotherapy

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Objectives:
The aim of this study is to investigate therapeutic benefits of neoadjuvant chemotherapy and survival outcomes in patients with locally advanced cervical cancer (LACC) after neoadjuvant chemotherapy(NACT) followed by radical surgery with or without postoperative adjuvant treatment.

Methods:
This study was retrospectively analyzed forty-seven patients who had LACC IB2-IIB were eligible for radical surgery NACT, between June 2005 and October 2015. The regimen of neoadjuvant chemotherapy was divided into three groups. Group 1 was paclitaxel with platinum, Group 2 was mitomycin, vincristine and platinum, and Group 3 was other regimens. Radical operability and response rate of NACT was analyzed and a survival outcome in patients with LACC with neoadjuvant chemotherapy followed by radical operation was analyzed according to regimen of NACT.

Table-I: Characteristics of patients with LACC before neoadjuvant treatment (N=47).

Age (years)	52.4 (27-73, SD=10.8)
Maximal diameter of tumor on MRI (cm)	4.78 (2.8-8.0, SD=1.19)
Suspicion of lymph node metastasis on MRI †	
Absent	16(34%)
Present	31(66%)
	mean diameter (cm)
	1.8 (1.0 -5.0, SD=1.1)
Histology	
Squamous cell carcinoma	36 (75 %)
Adenocarcinoma	6 (12.5 %)
Adeno-squamous cell carcinoma	4 (8.3 %)
Others ‡	1 (2.1%)
Stage	
IB	21(43.8%)
IIA	8(16.7%)
IIB	18(39.5%)

Data are expressed as mean (range, standard deviation) or absolute numbers (%).

Table-III: operative outcomes of NACT in patients with LACC.

Radical operation	
No	0 (0%)
Yes	47 (100%)
Laparotomy	11 (23.4%)
Laparoscopy	36 (76.4%)
Adjuvant treatment after radical operation	
No	11 (23.4%)
Yes	36 (76.4%)
Chemotherapy	11(30.6%)
Radiotherapy	6 (16.7%)
CCRT	19 (52.8%)

Table-IV: Survival outcomes of LACC with NACT *

Mean follow-up period (months)	49.6, SD=2.69 (23-123)
Recurrence rate	18/47 (38.3%)
Mean disease free duration	33.9, SD=4.0
5 year survival rate	72.1%

Results
Group 1 was eleven, Group 2 was twenty-one, and Group 3 was fifteen patients. The maximal diameter of tumor on MRI before neoadjuvant chemotherapy was 4.78 cm (2.8-8.0, SD=1.19). The response rate of NACT is high in Group 2, 50.52% compared with 25.61% in group 3. All patients received radical operation via laparoscopy (76.4%) or laparotomy (23.4%) after neoadjuvant chemotherapy. The mean follow-up period was 49.6 months, SD=2.69. The recurrence rate was 38.3% (18/47). Five-year survival rate was 72.1 % and overall survival in Group 2 was 84.9 months (Log-rank p value= 0.003)

Conclusions:
Despite of limitation of small number and retrospective study, our study suggests that NACT with mitomycin, vincristine and platinum (MVP) regimen in patients with LACC could be a good therapeutic option for radical operation and better survival outcome.

Table-II: Clinical outcomes of neoadjuvant chemotherapy(NACT) in patients with LACC.

Mean number of regimen's cycle in NACT	3.02 (1-8)			
	Group 1†	Group 2 ‡	Group 3§	P value *
Number of patients	11(23.4%)	21 (44.7%)	15 (31.9%)	
pre-NACT Tumor size (cm)	4.63, SD=0.81	4.68, SD=1.37	5.04, SD= 1.17	0.51
Response rate (%)	48.04, SD=50.71	50.52, SD=42.2	25.61, SD=35.71	0.19
Response status				
CR	4 (36.4%)	6 (28.6%)	1 (6.7%)	
PR	4 (36.4%)	9 (42.8%)	5 (33.3%)	
SD	2 (18.2%)	5 (23.8%)	8 (53.3%)	
PD	1 (9.1%)	1 (4.8%)	1 (6.7%)