Cervical laser vaporization for women with cervical intraepithelial neoplasia-3

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Objective: This study evaluated outcomes of laser vaporization of the cervix for women with cervical intraepithelial neoplasia (CIN)-3.

Methods: We retrospectively reviewed 161 consecutive patients with CIN3 who were treated with cervical laser vaporization between January 2008 and December 2012. At each follow-up visit, histologically confirmed CIN2, CIN3, and invasive carcinoma were defined as treatment failures, as were high-grade squamous intraepithelial lesion (HSIL) or atypical squamous cells that cannot exclude HSIL (ASC-H) with subsequent treatment or lost to follow-up. Treatment failure rates were estimated by the Kaplan–Meier method.

Results: Patients’ median age was 31 years old. Median follow-up period was 67 months (interquartile range: 52–74 months). Over 5 years, 70.8% continued their follow-up visits, but significantly more patients aged ≥ 35 years did so (86.4%) than did those aged ≤ 34 years (61.8%, *P*=0.0009). Treatment failure was observed in 14 (8.7%) patients, 1 of whom progressed to invasive cancer (0.6%). Cumulative treatment failure rates were 1-year: 5.1%, 2-year: 6.4%, and 5-year: 9.5%. Among patients who suffered treatment failures, 57.1% initial failures occurred within the first year and 71.4% within the first 2 years.

Conclusions: The importance of continuing follow-up visits after 5 years should be emphasized to patients with CIN3 who are candidates for cervical laser vaporization, especially those aged ≤ 34 years.

Characteristic	Value
Age (y), median (range)	31 (19-67)
Age (y), n (%)	
< 24	11 (6.8%)
25~29	47 (29.2%)
30~34	44 (27.3%)
35~39	39 (24.2%)
40~44	16 (9.9%)
45 <	4 (2.5%)
Gravida, median (range)	1 (0-7)
Para, median (range)	0 (0-5)
Marital status	
married	66 (41.0%)
single, divorced	10 (6.2%)
single, never married	85 (52.8%)
Smoking habit	
yes	41 (25.5%)
no	115 (71.4%)
unkown	5 (3.1%)
High-risk HPV status, n (%)	
positive	110 (68.3%)
negative	12 (7.5%)
unknown	39 (24.2%)

Table 1. Patient charcteristics of 161 patients in the study population

The cumulative 5-year DFS rate was 90.5% (Figure 1). Treatment failure was observed in 14 (9%) patients (Table 3), 1 of whom (0.6%) progressed to invasive cancer Cumulative 1-year, 2-year, and 5-year treatment failure rates were 5.1%, 6.4%, and 9.5%, respectively. There was no significant difference in initial treatment failure rates between patients aged ≤ 34 years and those aged ≥ 35 years (6.9 % vs. 11.9 %, *P*=0.28).

Patients’ characteristics are shown in Table 1. Traceability data are shown in Table 2. The median follow-up period was 67 months after cervical laser vaporization (interquartile range: 52–74 months). Lost to follow-up rates were 7.4 % within the first year, 14.9 % within 2 years, and 16.1 % within 3 years. Of the 114 patients (70.8 %) who kept up regular hospital visits over 5 years or longer, a significantly higher percentage of those aged ≥35 years (86.4 %) did so than the ≤ 34-year group (61.8 %; *P*=0.0009). Those who did not maintain long-term (≥ 5 years) hospital visits were, by age group, ≥24 years: 54.5% (6/11); 25–29 years: 38.3% (18/47); 30–34 years: 34.1% (15/44); 35–39 years: 15.4% (6/39); 40–44 years: 12.5% (2/16) %; and ≥ 45 years: 0% (0/4).

	< 24 yo	25-29 yo	30-34 yo	35-39 yo	40-44 yo	> 45 yo	total
0-11 (month)	1	4	3	3	1	0	12
12-23 (month)	2	4	6	0	0	0	12
24-35 (month)	0	1	0	0	1	0	2
36-47 (month)	1	4	3	0	0	0	8
48-59 (month)	1	5	3	3	0	0	12
60-71 (month)	4	14	15	14	5	1	54
72- (month)	2	15	14	19	9	3	61
total	11	47	44	39	16	4	161

Table 2. Relationship between age at the initial laser vaporization and last follow-up visit

Among patients with treatment failure, initial failure occurred in 57.1 % (8/14) within the first 1 year and 71.4% (10/14) within the first 2 years (Table 3). Among patients with treatment failure who were treated at the age of ≤ 34 years, initial failure occurred in 71.5 % (5/7) within the first 1 year and 85.7% (6/7) within the first 2 years.

	< 24 yo	25-29 yo	30-34 yo	35-39 yo	40-44 yo	> 45 yo	total
0-11 (month)	1	2	2	2	1	0	8
12-23 (month)	0	1	0	1	0	0	2
24-35 (month)	0	0	1	0	0	0	1
36-47 (month)	0	0	0	0	2	0	2
48-59 (month)	0	0	0	1 [†]	0	0	1
60-71 (month)	0	0	0	0	0	0	0
72- (month)	0	0	0	0	0	0	0
total	1	3	3	4	3	0	14

yo, years old; †, invasive squamous cell carcinoma

Table 3. Initial treatment failure period by age