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=Abstract=

Prediction of Residual Neoplasia Based on Pathologic Severity and Resection Margin Status of Conization Specimens

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Objective: To evaluate the status of cone margins and severity of cervical neoplasia as predictors of residual lesions in the remaining cervixes, and provide guideline for further treatment or close follow-up.

Method: We performed a 3-year retrospective study and reviewed 95 patients who had undergone cervical conization followed by subsequent hysterectomy.

Result: The prevalence rates of positive cone margins were 33, 50, 44, 71 and 88% respectively in patients with cervical intraepithelial neoplasia(CIN)II, CIN III, cervical cancer stage Ia1, Ia2 and Ib1. The prevalence rates of positive residual lesions in postcone hysterectomy specimens were 0, 31, 19, 29 and 59% respectively in patient with CIN II, CIN III, cervical cancer Ia1, Ia2 and Ib1. Residual lesions were significantly more frequently found in patients with positive cone margins(51%) than in those with negative margins(4.8%). Positive predictive values of margin status for the presence of residual lesions were 0, 56, 36, 40 and 67% respectively. Negative predictive values of margin status for the absence of residual lesions were 100, 94, 94, 100 and 100% respectively.

Conclusions: (1) The prevalence of positive cone margin and residual lesion increased with more severe cervical neoplasia. (2) Positive cone margins had significantly higher risks of residual lesion than negative cone margins. (3) Positive cone margin does not invariably indicate the presence of residual lesion. (4) Negative cone margin does not ensure the absence of residual lesion.

Subsequent hysterectomy may be reserved for the patient with CIN III or cervix cancer having positive cone margin or invasive lesion, or the patient who is not reliable for continuous follow-up.

Keywords: Conization, Cervical Intraepithelial Neoplasia, Cervical Carcinoma, Residual Neoplasia, Resection Margin

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가 가
CIN) (Cervical Intraepithelial Neoplasia, 가 가
45)
가 가 , Moore 6
가
knife 가
가
(large loop excision of transformation zone, LLETZ)
가
가 1995 3 1997 7
가 2 5
가
95
37가 (High Frequency Unit; Dr. Shimodaira's coagulator MGI 201)
,1)
.2) , .3)

culum) 360°
 가
 therapy probe H) 120 (SEMM,
 20 60
 가 5mm (bended
 semi-ball)

Table 1. Age Distribution

Age	Number of patients(%)
< 30	1(1)
30 ~ 39	43(45.3)
40 ~ 49	30(31.3)
50 ~ 59	12(12.5)
> 60	9(9.4)
Total	95(100)

Table 2. Indication of Conization

	Number of Patients(%)
ASCUS	7(7.4)
CIN I	4(4.2)
CIN II	4(4.2)
CIN III	55(57.3)
Microinvasive SCC	24(25.3)
Others	1(1.0)
Total	95(100)

* ASCUS: Atypical Squamous Cells Undetermined Significance

* CIN: Cervical Intraepithelial Neoplasia

* SCC: Squamous Cell Carcinoma

* Others: Adenocarcinoma

12
 10% 4 12
 3, 6, 9 4
 2mm
 가
 Chi-square test p < 0.05

(CIN) II(n = 3), CIN III(n = 36),
 Ia1(n=32), Ia2(n = 7), Ib1(n = 17)

CIN II가 1 (33.3%), CIN III가 18 (50%),
 Ia1 14 (43.8%), Ia2가 5 (71.4%), Ib1 15 (88.2%) (Table 3).

CIN II CIN III 11 (30.6%),
 Ia1 6 (18.8%),
 Ia2가 2 (28.6%), Ib1 10 (58.8%)

30 가 43 (45.3%)
 가 40, 50 (Table 1).

(Table 4).

CIN III가 55 가

(Table 2).

CIN II 2
 CIN III 18
 1 (5.6%)
 2
 (Table 5).
 CIN II 1
 , CIN III 18 10 (55.6
 %)
 가
 CIN III 2
 Ia1 14
 5 (35.7%)
 2 (40.0%)
 10 (66.7%)
 Ib1 15

(Table 6).

Table 3. Cone Pathology with Positive Resection Margin

Cone Pathology	Number of Patient(%)
CIN II	1/3(33.3)
CIN III	18/36(50.0)
CxCa Ia1	14/32(43.8)
CxCa Ia2	5/7(71.4)
CxCa Ib1	15/17(88.2)
Total	53/95(55.8)

* CIN: Cervical Intraepithelial Neoplasia

* CxCa: Cervical Cancer

Table 4. Cone Pathology with Positive Residual Tumor in Hysterectomy

Cone Pathology	Number of Patient(%)
CIN II	0/3(0)
CIN III	11/36(30.6)
CxCa Ia1	6/32(18.8)
CxCa Ia2	2/7(28.6)
CxCa Ib1	10/17(58.8)
Total	29/95(30.5)

* CIN: Cervical Intraepithelial Neoplasia

* CxCa: Cervical Cancer

(50.9%, 27/53) (4.8%, 2/42) (p < 0.05).

CIN II 0%(0/1), CIN III 55.6%(10/18),
 Ia1 35.7%(5/14), Ia2 40%(2/5), Ib1
 66.7%(10/15), CIN II
 100%(2/2), CIN III 94.4%(17/18), Ia1
 94.4% (17/18), Ia2 100%(2/2), Ib1 100%
 (2/2) (Table 7).

Table 5. Residual Lesion Severity in Postcone Patient with Negative Margins

Cone pathology	Residual lesion in hysterectomy									
	None	Yes(%)	CIN	CIN	CxCa	a1	CxCa	a2	CxCa	b1
CIN II(n=2)	2	0(0)	0	0	0	0	0	0	0	0
CIN III(n=18)	17	1(5.6)	0	1	0	0	0	0	0	0
CxCa Ia1(n=18)	17	1(5.6)	0	0	1	0	0	0	0	0
CxCa Ia2(n= 2)	2	0(0)	0	0	0	0	0	0	0	0
CxCa Ib1(n= 2)	2	0(0)	0	0	0	0	0	0	0	0
Total(n=42)	40	2(4.8)	0	1	1	0	0	0	0	0

* CIN: Cervical Intraepithelial Neoplasia

* CxCa: Cervical Cancer

Table 6. Residual Lesion Severity in Postcone Patient with Positive Margins

Cone Pathology	Residual Lesion in Hysterectomy							
	None	Yes(%)	CIN	CIN	CxCa	a1	CxCa a2	CxCa b1
CIN II(n=1)	1	0(0)	0	0	0	0	0	0
CIN III(n=18)	8	10(55.6)	0	8	2	0	0	0
CxCa Ia1(n=14)	9	5(35.7)	0	0	5	0	0	0
CxCa Ia2(n=5)	3	2(40.0)	0	0	0	2	0	0
CxCa Ib1(n=15)	5	10(66.7)	0	0	0	0	0	10
	26	27(50.9)	0	8	7	2	0	10

* CIN: Cervical Intraepithelial Neoplasia

* CxCa: Cervical Cancer

(93.1%, 27/29) , 2

2

가

CIN III ,
Ia1

.9) Lapaquette1) White 10)
60%

. Paterson 11)

가

가

79%

95

가

가 60%

30.5% (29/95)

가

가

. Buxton 12)

가

가

가

. Pelps 4)

47%,

23%

42%

50.9% (27/53),

4.8%

(2/42)

가

57%

. Paraskevaidis 3)

가

가

. White 8)

1 4

. Husseinzadeh 13)

56%

가

가

36%

가 88%

가 CIN III 50%, CIN II 33.3%, Ia1 43.8%, Ia2가 71.4%, Ib1 88.2%

가 III가 30.6%, Ia2 28.6%, CIN II Ia1 18.8%, Ib1 58.8%

ng 14) Cha- 가

1 2. 가

4.8% 10.1% 50.9% 4.8%

가

가 3. 가 49.2%

가 4. 가

4.8%

가

- Reference-

1. Lapaquette TK, Dinh TV, Hannigan EV, Doherty MG, Yandell RB, Buchanan VS: Management of patients with positive margins after cervical conization. *Obstet Gynecol* 1993; 82: 440-443.
2. Watson AJ, Tuffnell DJ, Lowe JW, Rand RJ, Wilkinson K: The incomplete cone biopsy: A comparison of conservative and surgical management. *Eur J Obstet Gynecol Reprod Biol* 1993; 51: 119-123.
3. Paraskevaidis E, Kitchener H, Adonakis G, Parkin

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- D, Lolis D: Incomplete excision of CIN in conization: Further excision or conservative management? *Eur J Obstet Gynecol Reprod Biol* 1994; 53: 45-47.
4. Phelps JY, Ward JA, Szigeti J, Bowland CH, Mayer AR: Cervical cone margins as a predictors for residual dysplasia in post-cone hysterectomy specimens. *Obstet Gynecol* 1994; 84: 128-130.
 5. Felix JC, Muderspach LI, Duggan BD, Roman LD: The significance of positive margins in loop electro-surgical cone biopsies. *Obstet Gynecol* 1994; 89: 996-1000.
 6. Moore BC, Higgins RV, Laurent SL, Marroum MC, Bellitt P: Predictive factors from cold knife conization for residual cervical intraepithelial neoplasia in subsequent hysterectomy. *Am J Obstet Gynecol* 1995; 173: 361-366.
 7. Shepherd JH: Staging announcement-FIGO staging of gynecologic cancers: Cervical and vulva. *Int J Gynecol Cancer* 1995; 5: 319-320.
 8. White CD, Cooper WL, Williams RR: Cervical intraepithelial neoplasia extending to the margins of resection in conization of the cervix. *J Reprod Med* 1991; 36: 635-638.
 9. White CD, Macatol FR, EeJosef AB: Inflammatory cell infiltrate in the cervix as a predictor of residual cervical intraepithelial neoplasia after conization. *J Reprod Med* 1992; 37: 799-802.
 10. White CD, Cooper WL, Williams RR: Management of residual squamous intraepithelial lesion lesions of the cervix after conization. *W V Med J* 1993; 89: 382-385.
 11. Paterson BS, Chappatte OA, Clark SK, Wright A, Maxwell P, Taub MA, Raju KS: The significance of cone biopsy resection margins. *Gynecol Oncol* 1992; 46: 182-185.
 12. Buxton EJ, Luesley DM, Wade Evans T, Jordan JA: Residual disease after cone biopsy: Completeness of excision and follow-up cytology as predictive factors. *Obstet Gynecol* 1987; 70: 529-532.
 13. Husseinzadeh N, Shbaro I, Wesseler T: Predictive value of cone margins and post-cone endocervical curettage with residual disease in subsequent hysterectomy. *Gynecol Oncol* 1989; 33: 198-200.
 14. Chang DY, Cheng WF, Torng PL, Chen RJ, Huang SC: Prediction of residual neoplasia based on histopathology and margin status of conization specimens. *Gynecol Oncol* 1996; 63: 53-56.
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