



Positive pathological margins following loop electrosurgical excision procedure – management and outcome

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Objective

Cervical conization is an important diagnostic and therapeutic tool for reducing the risk for cervical malignancy,

Pathological involvement of the margins of the specimen is a risk factor for recurrence, although management of these patients is controversial.

The aim f the study is to define risk factors for positive pathological margins and compare recurrence rates following additional surgical intervention compared to conservative management.

Methods

A retrospective study was performed including all women who underwent cervical conization between the years 2010 and 2019.

Univariate analysis was performed to identify characteristics of women with positive margins upon conization.

Patients with positive margins were stratified by mode of management comparing three groups (conservative management, repeat conization and hysterectomy) and then two groups (conservative management vs. additional surgical intervention).

Kaplan Meier survival curves were constructed to compare cumulative recurrence stratified by mode of management.

Pathological results of subsequent surgical procedures in patients who had positive pathological margins were examined to obtained data regarding residual disease.

Results

During the study period 448 conizations were performed, 131 (29.2%) had positive pathological margins.

Menopause status, high-grade cytology and endocervical gland involvement were all associated with positive margins,

Women in the conservative management group (n=45) were generally nulliparous, with low-grade cytology and with less endocervical gland involvement.

Women who underwent subsequent hysterectomy (n=61) were generally menopausal with higher parity.

Recurrence did not differ significantly between the three management groups (p=0.073) or when conservative management was compared to additional surgery (6.4% vs. 7.1% p=0.869).

Kaplan Meyer survival curves depicting cumulative recurrence did not differ significantly in either model (log rank test p=0.642 and p=0.868 for three-group and two-group models respectively).

Residual disease was found in 51.6% of subsequent hysterectomy specimens and 52.6% of repeat conizations.

Kaplan Meyer Hazard curve presenting cumulative recurrence following conization with positive margins stratified by mode of management

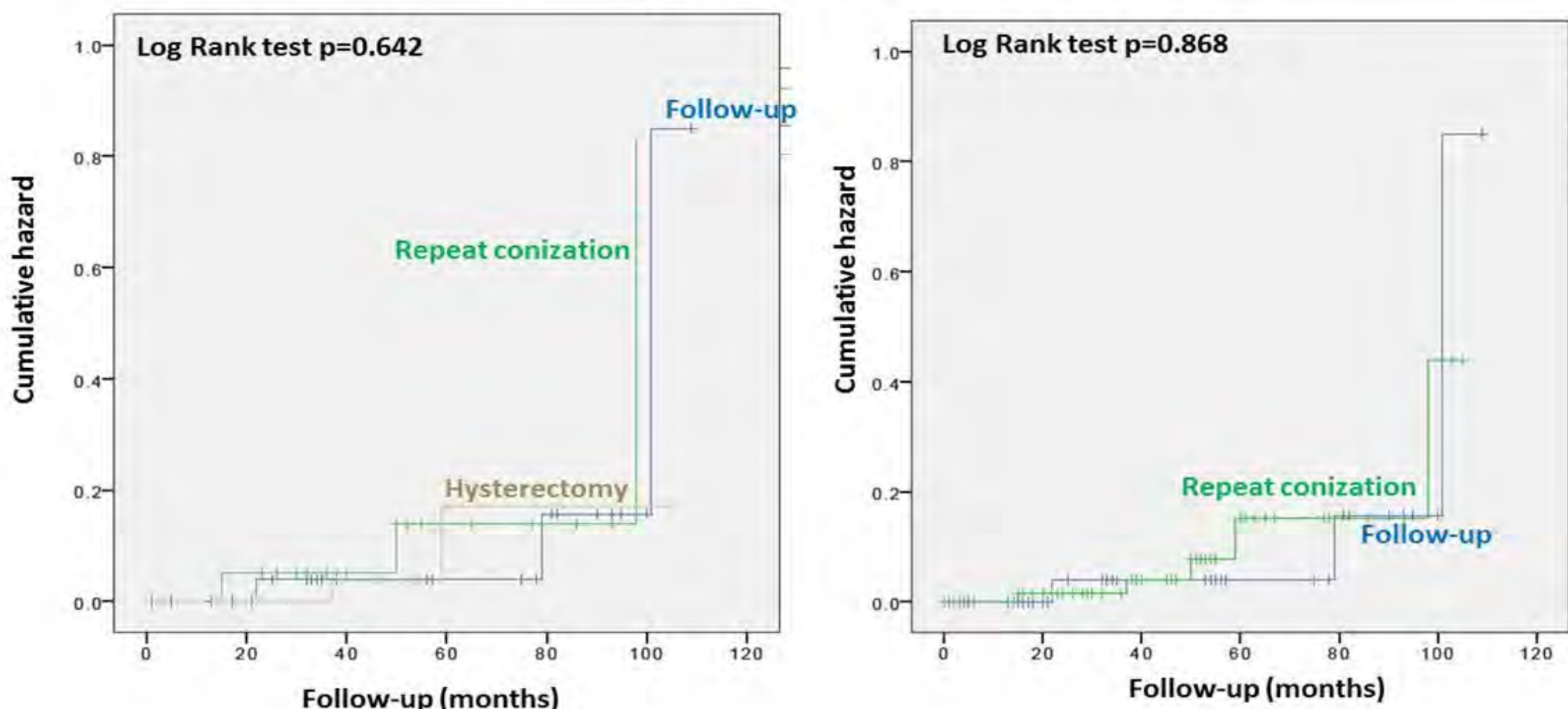


Table presenting management and outcomes of patients with positive conization margins

Characteristic		Follow-up n=45 (%)	Repeat conisation n=25 (%)	Hysterectomy n=61(%)	p value
Menopause		5 (11.1)	3 (12.0)	27 (44.3)	<0.001
Parity	0	10 (22.2)	3 (12.0)	5 (8.3)	0.031
	1	6 (13.3)	7 (28.0)	4 (6.7)	
	2	26 (57.8)	11 (44.0)	44 (73.3)	
	3	3 (6.7)	4 (16.0)	7 (11.7)	
Irregular bleeding		5 (12.5)	1 (5.0)	14 (25.9)	0.064
Pap results	ASCUS	9 (20.5)	2 (8.0)	7 (12.7)	0.678
	LGSIL	5 (11.4)	3 (12.0)	5 (9.1)	
	HGSIL	16 (36.4)	14 (56.0)	27 (49.1)	
	Other	14 (31.8)	6 (24.0)	16 (29.1)	
Colposcopy findings	No findings	8 (20.5)	4 (18.2)	14 (29.9)	0.776
	Grade 1 – fine AWE	15 (38.5)	7 (31.8)	15 (31.3)	
	Grade 2 – course AWE	16 (41.0)	11 (50.0)	18 (37.5)	
Biopsy	CIN1	3 (8.1)	0 (0)	4 (7.5)	0.05
	CIN2/3, SCC, AIS	13 (35.1)	10 (52.6)	34 (64.2)	
	No biopsy	21 (56.8)	9 (47.4)	15 (28.3)	
Histology	CIN1	2 (4.4)	0 (0)	1 (1.6)	0.047
	CIN2/3	37 (82.2)	23 (92.0)	41 (67.2)	
	Other	6 (13.3)	2 (8.0)	19 (31.1)	
Endocervical gland involvement		22 (57.9)	17 (89.5)	26 (51.0)	0.013
Largest diameter (cm, mean±SD)		2.48±0.874	2.385±0.761	2.262±0.641	0.347
Recurrence		3 (6.4)	4 (17.4)	2 (3.3)	0.073
Follow-up (months, mean±SD)		39.77±33.002	50.00±29.796	32.75±24.613	0.053

In select patients with positive pathological margins following cervical conization, conservative management is non-inferior to additional surgical intervention and may be considered a viable management option.