

Audit of Surgical Margin and Follow Up Results in Patients Treated For Cervical Intraepithelial Neoplasia or Adenocarcinoma In Situ

Dr Chris Brinkman, Dr Simone Petrich
Dunedin Public Hospital

Background

Excisional treatment of high grade cervical intraepithelial neoplasia (CIN2/3) and adenocarcinoma in situ (AIS) can prevent cervical cancer. Risk factors for residual or recurrent in situ disease include margins status, follow up cytology and post treatment persistent high risk human papillomavirus (HrHPV) (1).

Objectives

The aim of this audit was to review treatment outcomes in our Colposcopy Service by auditing margin status and post-treatment cytology and high-risk HPV results.

Methods

Patients who received a cervical excisional biopsy treatment between October 2017–May 2020 were identified from a local database. Patient characteristics, histopathology report, margin status, indication for treatment, and first follow-up cytology were analysed. Post treatment HrHPV status was also included even though “test of cure” at 6 months with HrHPV was not standard recommendation in this cohort. Local audit approval policy was followed.

Patient characteristics

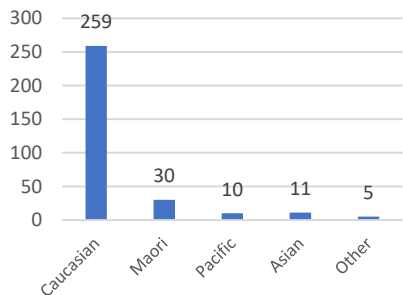


Figure 1: Ethnicity

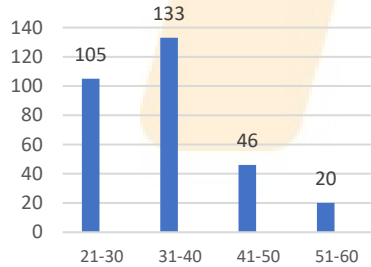


Figure 2: Age distribution

Results

315 women treated for CIN2+ or AIS were included. Population characteristics are outlined in Figures 1 and 2. Distribution of ethnicity was similar to that of Dunedin’s population. 286 LLETZ procedures and 29 cone biopsies were performed. Margins were positive in 26.3 % of the cases (see Figure 3)

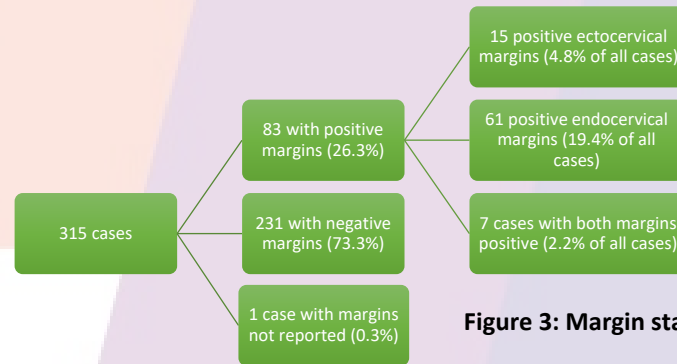


Figure 3: Margin status

Post – treatment cytology was available in 297 (94%) cases, taken at 6-12 months after treatment. 4.8% showed CIN2+ or ASC-H, 5.7% showed ASC-US or CIN1. 1.3% of samples were inadequate. 5.4% were lost to follow up. HrHPV was tested in 38.4% of cases and was detected in 23.1% of these. See table 1 below.

Table 1: Margin status compared with cytology

Margin status	Cytology CIN1/ASCUS	Cytology CIN2+	Cytology normal	Cytology not done / inadequate	HrHPV positive	HrHPV negative	HrHPV not done
Positive ectocervical margin (n=15)	0	0	12	3	0	3	12
Positive endocervical margin (n=61)	4	10	44	3	8	19	34
Both margins positive (n=7)	0	0	6	1	0	3	4
Negative margins (n=231)	14	5	197	15	20	68	143

Discussion

To our knowledge this is the first published audit data on margin status and post LLETZ Follow up in New Zealand. A negative margin rate of 73.3% is close to the European Federation for Colposcopy Standard of 80% (2). Negative post treatment hrHPV status of 76.9% and negative cytology rate of 89.8% are in line with the margin results. The literature reports a wide range of margin positivity ranging from 2.8% to 59.5% (2). The risk of recurrent or residual disease has been found to be greater when the endocervical margin (or both margins) are involved, which is consistent with our data (2,3). HrHPV numbers included in this study are difficult to interpret as they were not part of routine follow up prior to the 2020 New Zealand guideline change.

Conclusion

The proportion of positive margins is close to European standard, and is concordant with published literature. A positive endocervical margin is a predictor for persistent disease. Our data can now be used as a baseline for future quality improvement projects.

References

- Rizutto I, Nalam M, Jiang J, Linder A, Rufford B. Risk factors for HPV persistence and cytology anomalies at follow-up after treatment for cervical dysplasia. *Int J Gynecol Obstet* 2018;141:240-244
- Arbyn M, Redman C, Verdoodt F, Kyrgiou M, Tzafetas M, Ghaem-Maghani S et al. Incomplete excision of cervical precancer as a predictor of treatment failure: a systematic review and meta-analysis. *Lancet Oncol* 2017; 18:1665-79.
- Fernandez-Montoli M, Tous S, Medina G, Castellarnau M, Garcia-Tejedor A, de Sanjose S . Long-term predictors of residual or recurrent cervical intraepithelial neoplasia 2-3 after treatment with a large loop excision of the transformation zone: a retrospective study. *BJOG* 2020;127:377-387

Correspondence: christopher.brinkman@southerndhb.govt.nz