OBJECTIVE
To evaluate the long-term outcome of patients with cervical intraepithelial neoplasia (CIN) 2-3 with microinvasive squamous cell carcinoma of the cervix (MICA) after cold knife conization (CKC).

METHODS
We retrospectively reviewed data from 355 patients (median age 40 years old, age range 21-68) with CIN 2-3, AIS, and MICA treated by CKC at Ajou University Hospital, Suwon, Korea, between July 2003 and June 2011. Multivariate analysis was performed using Chi-squared and Fisher’s Exact Tests, and comparisons of means across multiple groups were performed using ANOVA or Student’s t-test. The factors for patients with positive margin included age, parity, and age of menarche. The study was approved by the Institutional Review Board of Ajou University Hospital.

RESULTS
Of the 355 patients, 26 (7.3%) had residual disease demonstrated by colposcopic-directed biopsy and subsequent loop electrosurgical excision procedure (LEEP) or hysterectomy. In 244 patients (68.7%), the specimen was assessed as complete excision, and in 111 patients (31.3%) the excision was found to be incomplete. There were no clinicopathological predictors of residual disease. The cure rate for incomplete excision at the exocervical margin was 91.5%, incomplete excision at the endocervix was 78.7%, and 44.4% if excision was incomplete at both margins. In univariate analysis, severity of the disease in CKC specimens (P < 0.01), positive endo- and endocervical resection margin (P < 0.01), and positive endocervical margin (P < 0.01) were significant risk factors for the residual disease. Multivariate analysis demonstrated that age (P < 0.01), severity of the disease in CKC specimens (P < 0.01), positive endo- and endocervical resection margin (P < 0.01) were significant risk factors with higher risk of residual disease.

CONCLUSION
CIC performed for CIN 2-3, AIS, and MICA is likely to be curative when the lesion is completely excised. Most cases of incompletely excised CIN 2-3, AIS, and MICA are likely to be curative with a single additional CKC procedure. Age >50 years, severity of the disease in CKC specimens, positive endo- and endocervical resection margin could be a significant risk factor for developing residual disease after CKC.