**Outcome of Atypical Squamous Cells in Cervical Cytology: Follow-Up Assessment by Loop Electrical Excision Procedure**

Department of Pathology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea

Gyungyub Gong, Joon Seon Song, Ilseon Hwang

**Objective:** We have retrospectively assessed the incidence and outcome of women diagnosed during a hospital-based cytology screening program with "atypical squamous cells (ASC)" and followed-up with loop electrical excision procedure (LEEP). Women with atypical squamous cells of undetermined significance (ASC-US) and atypical squamous cells cannot exclude high grade squamous intraepithelial lesion (ASC-H) were compared.

**Materials and Methods:** From January 2004 to December 2007, 173,947 cervical smears were evaluated by the cervical cytology laboratory at the Asan Medical Center (Seoul, Korea). These smears identified 7,125 (4.0%) women with ASC-US and 383 (0.2%) with ASC-H. We analyzed their follow-up cytology and histology findings.

**RESULTS:** Follow-up cytology with LEEP results were retrieved for 390 women with ASC-US (mean age, 43.51 years; range, 22-73 years) and 112 with ASC-H (mean age, 46.94 years; range, 26-76 years). The median follow-up periods were 24.1 months (range, 0-68.5 months) and 2.76 months (range, 0-13.1 months), respectively, and the median follow-up periods from ASC to LEEP were 8.07 months and 1.98 months, respectively.

On the second smear of the 390 women initially diagnosed with ASC-US, 130 (33.3%) had no records of follow-up smears before LEEP; smears of 68 (17.4%) were negative for cytologic abnormalities, 94 (23.8%) were positive for ASC-US again, 14 (3.6%) were positive for ASC-H, 63 (16.2%) were positive for LSIL, and 20 (5.7%) were positive for HSIL. LEEP findings in the 390 women initially diagnosed with ASC-US showed that 183 (46.9%) were negative, 73 (18.7%) were graded as CIN1, 25 (6.4%) as CIN2, 102 (26.2%) as CIN3, and 7 (1.5%) had carcinoma. LEEP was performed in 97 women initially diagnosed with ASC-H on cervical smears; of these 33 (34.0%) were negative, 3 (3.0%) were graded as CIN 1, 7 (7.2%) as CIN2, 49 (50.5%) as CIN3 and 5 (5.2%) with carcinoma. Of 81 women with ASC-US and 19 with ASC-H, 28 (34.6%) and 8 (42.1%) women, respectively, were negative for HPV. The most common HPV types in ASC-US patients were types 52 (n=11, 13.6%) and 16 (n=10, 12.3%), whereas the most common types in ASC-H patients were types 16 (n=4, 20.1%) and 70 (n=3, 15.7%). HPV type and LEEP diagnosis did not correlate statistically in the ASC-US and ASC-H groups (p = 0.13 and p = 0.881, respectively).

**CONCLUSIONS:** Patients with ASC-H smears were at increased risk of SIL or carcinoma compared with patients with ASC-US. Careful follow-up is required in ASC patients.