Abstract

Introduction. Pap smear has limitations as a screening test for cervical cancer. A marker that allows the identification of women who are at risk of developing cervical cancer would be useful for its prevention. A growing number of studies have demonstrated an association between insulin-like growth factors (IGF) serum levels and increased risk for various cancers.

Objective. To assess whether circulating IGF-I, IGF-II, or IGF binding protein 3 (IGFBP-3) were associated with cervical cancer and low-grade and high-grade squamous intraepithelial lesions (LSIL and HSIL).

Materials and methods. Serum levels of IGF-I, IGF-II and IGFBP-3 were measured by ELISA. Three groups of cases were analyzed: LSIL (n = 37), HSIL (n = 57), and cervical cancer (n = 41). For each case, two controls, matched by age, were included. Control subjects were women with normal, HPV-DNA-negative Pap smear.

Results. Significantly lower values of IGF-I (83.9 ng/ml versus 126.6 ng/ml, p < 0.001) and IGF-I:IGFBP-3 molar ratio (0.094 versus 0.137, p < 0.001) were observed among cancer cases, as compared to their control group. Women in the highest quartile of IGF-I and IGF-I:IGFBP-3 molar ratio were at an 80% (OR = 0.2, 95% CI [0.06-0.61]) and a 77% (OR = 0.23, 95% CI [0.07-0.73]) lower risk of cervical cancer, respectively, compared with women in the corresponding reference category.

Conclusions. These data suggest that low values of IGF-I and IGF-I:IGFBP-3 molar ratio maybe associated with cervical cancer.

Keywords