Long-term outcomes of high-risk human papillomavirus infection support a long interval of cervical cancer screening

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摘要

Abstract

Knowing that infection of high-risk human papillomavirus (HPV) causes virtually all cervical cancer (CC), the long-term outcomes of HPV infection, especially the absolute risk and time lapse of developing CC, are beyond the scope of ordinary follow-up study owing to ethical concerns. The present study followed the natural history and long-term outcomes of HPV infection in a cohort of women by national health insurance care and data linkage without additional disturbance. The status of cervical HPV infection was determined in 1708 healthy women, aged 20-90 (median 43), enrolled from 10 hospitals in seven cities around the island country of Taiwan. Records of consecutive Pap smear results and cancer reports of 108 cytology-negative, HPV-positive and 1202 cytology- and HPV-negative women with no prior record of CC or abnormal cervical cytology were retrospectively analysed for a duration of up to 75 months (median 61 months). The cumulative incidences of high-grade squamous intraepithelial lesion (HSIL) and in situ/invasive cancer in HPV-positive women were 5.6 and 3.7%, respectively, and those in HPV-negative women were 0.3 and 0%. After adjusting for other risk factors, HPV-positive subjects had 24.9 (95% Cl: 7.0-108.3; P<0.0001) folds of risk of developing HSIL or above cervical neoplasia as compared to HPV-negative subjects, whereas risk for low-grade intraepithelial lesion and atypical squamous cytology was not increased. The study showed that women with a prevalent infection of high-risk HPV had a 4% cumulative risk for CC in 6 years, whereas those tested negative had little risk. The result supports an HPV test-orientated CC screening programme with intervals of at least 5 years.