Short-term repeat HPV testing for triaging HPV-positive women in cervical cancer screening

Armando Baena, Maria Alejandra Picconi, Laura Mendoza, Annabelle Ferrera, David Mesher, Johana Lineros, Marisol Brizuela, Pamela Mongelos, Yessy Cabrera, Maria Dolores Fellner, Osmalia Zambrana, Laura García, Pilar Hernández, Maria Liz Bobadilla, Maria Ramon, Gino Venegas, Verónica Villagra, Aurelio Cruz, Guillermo Rodríguez, Carolina Terán, Alejandro Calderón, Carolina Wiesner, Rolando Herrero & Maribel Almonte on behalf of the ESTAMPA study group

Abstract

Background. Persistent HPV infection causes cervical cancer, but most infections are transient. Triage methods identify high-risk women needing further evaluation or treatment. We assessed short-term repeat HPV testing as an alternative triage option.

Methods. In ESTAMPA, women aged 30–64 years were screened with HPV testing (HC2 or Cobas) and cytology. Screen positives were referred to colposcopy approximately two months after screening, where cervical samples were collected again for repeat HPV testing. We evaluated the performance of repeat HPV for CIN3+ among HPV-positive women and explored its combination with limited HPV genotyping (HPV16/18).

Results. Among 5390 HPV-positive women (including 629 CIN3 cases and 53 cancers), 61% retested positive at ~2 months (median: 1.8, interquartile range: 1.2–2.8). Repeat HPV sensitivity for CIN3+ was 81.5% (95% CI 77.2–85.2) for HC2 and 87.7% (83.7–90.8) for Cobas. Specificity was <50% with referral rates of 57.4% (55.7–59.0) and 68.2% (66.1–70.2) for HC2 and Cobas. HPV16/18 genotyping followed by repeat HPV among non-HPV16/18-positive women did not greatly improve performance. However, HPV16/18 positivity doubled the risk of CIN3+, supporting its combination with repeat HPV when available.

Conclusions. Short-term repeat HPV testing could be a practical option for triaging HPV-positive women, either alone or in combination with limited HPV genotyping.