N Engl J Med. 2007 May 10;356(19):1928-43.

Comment in: N Engl J Med. 2007 May 10;356(19):1991-3.

Quadrivalent vaccine against human papillomavirus to prevent anogenital diseases.

Garland SM, **Hernandez-Avila M**, **Wheeler CM**, **Perez G**, **Harper DM**, **Leodolter S**, **Tang GW**, **Ferris DG**, **Steben M**, **Bryan J**, **Taddeo FJ**, **Railkar R**, **Esser MT**, **Sings HL**, **Nelson M**, **Boslego J**, **Sattler C**, **Barr E**, **Koutsky LA**; **Females United to Unilaterally Reduce Endo/Ectocervical Disease (FUTURE) I Investigators**.

Microbiology and Infectious Diseases Department, Royal Women's Hospital, and the University of Melbourne, Melbourne, Australia. suzanne.garland@rch.org.au

BACKGROUND: A phase 3 trial was conducted to evaluate the efficacy of a prophylactic quadrivalent vaccine in preventing anogenital diseases associated with human papillomavirus (HPV) types 6, 11, 16, and 18.

METHODS: In this randomized, placebo-controlled, double-blind trial involving 5455 women between the ages of 16 and 24 years, we assigned 2723 women to receive vaccine and 2732 to receive placebo at day 1, month 2, and month 6. The coprimary composite end points were the incidence of genital warts, vulvar or vaginal intraepithelial neoplasia, or cancer and the incidence of cervical intraepithelial neoplasia, adenocarcinoma *in situ*, or cancer associated with HPV type 6, 11, 16, or 18. Data for the primary analysis were collected for a per-protocol susceptible population of women who had no virologic evidence of HPV type 6, 11, 16, or 18 through 1 month after administration of the third dose.

RESULTS: The women were followed for an average of 3 years after administration of the first dose. In the per-protocol population, those followed for vulvar, vaginal, or perianal disease included 2261 women (83%) in the vaccine group and 2279 (83%) in the placebo group. Those followed for cervical disease included 2241 women (82%) in the vaccine group and 2258 (83%) in the placebo group. Vaccine efficacy was 100% for each of the coprimary end points. In an intention-to-treat analysis, including those with prevalent infection or disease caused by vaccine-type and non-vaccine-type HPV, vaccination reduced the rate of any vulvar or vaginal perianal lesions regardless of the causal HPV type by 34% (95% confidence interval [CI], 15 to 49), and the rate of cervical lesions regardless of the causal HPV type by 20% (95% CI, 8 to 31).

CONCLUSIONS: The quadrivalent vaccine significantly reduced the incidence of HPV-associated anogenital diseases in young women. (ClinicalTrials.gov number, NCT00092521 [ClinicalTrials.gov].).

PMID: 17494926 [PubMed - indexed for MEDLINE]