CORRESPONDENCE

Human Papillomavirus Vaccine in Males

TO THE EDITOR: In 2006, the Food and Drug Administration (FDA) licensed the human papillomavirus (HPV) vaccine for use in females 9 to 26 years old. The vaccine helps prevent cervical cancer, precancerous genital lesions, and genital warts. Trials of the vaccine in males are currently under way. If these trials demonstrate protection against HPV for males and if the FDA licenses the vaccine, should we promote its use in males?

HPV infection is the most common sexually transmitted illness in young people — those who are 15 to 24 years old. It is estimated that in 2000 there were 4.6 million new cases of HPV in this age group.[1] Many studies strongly link HPV to cervical cancer. Despite Papanicolaou testing and cytologic surveillance programs, there are around 11,000 new cases of cervical cancer annually in the United States, with about 4000 deaths each year.

I have encountered some difficulty convincing my female patients that they should accept the vaccine. Older female adolescents and young adults are worried about short- and long-term side effects. Parents voice objections, saying that their daughters are not sexually active and are not at risk. They also have concerns about efficacy.

It will be a much more formidable task to convince males and their parents that males should have the vaccine. In discussions with some of my male patients, they question their need for cervical cancer vaccination. Among male patients, there is very little understanding that they have an extraordinarily important role in the transmission of HPV and the long-term clinical sequelae. If health insurers do not pay for HPV vaccination in males, then it will be an almost insurmountable task to convince male patients, and their parents, that they should undergo vaccination.

Males who are vaccinated against HPV will protect themselves as well as their partners. As is consistent with herd immunity, immunization of large groups of people means that those who have not been immunized against HPV will have greater protection from acquiring the disease.

Many younger male adolescents do not have the future-thinking capabilities to understand the implications of HPV or vaccination against HPV. Adolescents probably are not going to admit that they are having sex or are even contemplating it. Parents need to accept the responsibility to ensure that their sons are vaccinated, and males should accept responsibility also.

The argument for vaccination of males should be focused not only on the diseases it can prevent

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but also on the implications for their sexual partners. In addition to males and their parents, physicians should acknowledge that responsibility and support vaccination of males. And health insurers have a responsibility to provide reimbursement for HPV vaccination in males.

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Age, Renal Tubular Phosphate Reabsorption, and Serum Phosphate Levels in Adults

TO THE EDITOR: A relation between age and serum phosphate levels in adults has been recognized since 1969.[1] We used data from the Gubbio Population Study to analyze serum phosphate levels and renal phosphate handling in relation to age in 2107 men and 2560 women (age range, 18 to 97 years).[2] Information concerning medical history and diet was collected by questionnaire. Overnight urine samples were obtained for analysis of albuminuria and markers of protein and salt intake. Early-morning samples of blood and urine were collected under fasting conditions to examine renal tubular function. Renal tubular phosphate handling was assessed as the ratio of the maximum rate of tubular phosphate reabsorption to the glomerular filtration rate (TmP:GFR).[3] Laboratory analyses were performed with the use of an autoanalyzer, with an intraassay error of less than 5% for serum variables and of less than 10% for urinary variables.

Among men, serum phosphate levels declined with age almost linearly (Fig. 1, top graph). Serum phosphate levels in women under the age of 45 years overlapped with those in men and then increased between the ages of 45 and 54 years before progressively declining from 55 years. The age-associated decline in serum phosphate levels was not associated with hypocalcemia and hypocalciuria, nor with indexes of protein and salt intake (not shown). The increase in serum phosphate levels in women between the ages of 45 and 54 years was probably not related to age itself, but rather to menstrual status, since serum phosphate levels were higher in 97 menopausal women under 50 years of age (mean age, 44.8 years) than in 67 menstruating women 50 years of age or older (mean age, 51.6 years) (3.61 mg per deciliter [1.17 mmol per liter] and 3.45 mg per deciliter [1.11 mmol per liter], respectively; $P=0.04$). In both sexes, the decrease in the TmP:GFR ratio with age was similar to that in serum phosphate levels (Fig. 1, bottom graph).

Thus, in adults, serum phosphate levels decline with age, except for a transient increase during the perimenopausal period in women.[4] The age-associated decline in serum phosphate levels reflects changes in tubular phosphate reabsorption, which, in turn, might be explained by age-dependent changes in tubular phosphate handling or in its hormonal modulators (e.g., parathyroid hormone, phosphatonins, and growth hormone). The lack of association between the decrease in serum phosphate levels with hypocalcemia or hypocalciuria does not support a role for hyperparathyroidism caused by vitamin D deficiency. A possible mechanism might be the age-dependent decrease in growth-factor secretion and related stimulation of phosphate reabsorption.[5] The practical implication is that phosphate-depleting disorders might induce hypophosphatemia more readily in older persons because the tubular capacity for phosphate reabsorption and the level of serum phosphate before the development of such disorders are already diminished. For parallel reasons, disorders causing increases in serum phosphate levels should more readily induce hyperphosphatemia in younger persons.

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