

Perspective

HPV, the Scarlet Letters

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In 2006 Merck Pharmaceuticals announced the release of Gardasil, a first of its kind vaccination against a cancer, specifically cervical cancer. Attendant upon the release of this new vaccine was the usual blitz of advertising but more interestingly, Merck's advertising campaign for Gardasil earned for the pharmaceutical company in 2008, "brand of the year award" for having created "a market out of thin air"[1]. The company's commercial genius was evident in its leveraging "white coat" legitimacy; through funding of professional medical associations, Merck effectively enjoined physicians and nurse practitioners as expert panelists to speak at medical conferences throughout the country [2]. Their infomercial was simple – a vaccine against cancer. But that was only half the genius. Indeed a much louder subtext played as a basso- continuo and heard much more clearly by women attuned to the social condemnation consequent upon contracting "a sexually transmitted disease", was that Gardasil is a vaccine against a "new STD"[3]. By 2009, in perhaps rare moments of mother/daughter agreement, 25% of girls aged 13-17 had received at least one of three doses in the vaccine series;² parents surely relieved at having successfully protected their young women from cervical cancer while the young women surely relieved at having been immunized against a sexually transmitted disease and its implied social opprobrium. Beyond creating a market for a cancer vaccine out of thin air, Merck deserved the advertising award for an even greater marketing achievement: for having dressed up an ancient and ubiquitous virus and, in this country, trotting it out as a "new STD" of pandemic import. It was this vaccine against the "new STD" that created more market excitement amongst young women than could ever have been generated by cervical cancer alone. How true the advertising adage, "Sex sells" but Merck proved even more the social power of STD's to sell a vaccine.

Unfortunately there was consequence to such mass marketing that essentially mis-featured the "new STD". Not only did the topic of HPV vaccination receive air-time during the most recent presidential primary debates (always the venue for reliable scientific content) but, erroneously, a deep awareness of HPV as exclusively an STD, has taken hold. The problem is that simultaneous with the advertising for Gardasil has been the integration of HPV testing into cervical screening. Indeed, the common cytologic expression of "hPV effect" or the presence of HPV on subtype testing performed within routine gynecologic screening protocols now raises in women more than just questions around precancerous cell changes. I have heard over the past 5 years, new significance to the question "how did I get this?" – deep self-recrimination at having contracted an "STD"

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with a resulting diminution in confidence and sense of self-worth. Most disturbing however are those patients, absurdly, forced to difficult discussions with partners regarding fidelity.

In *The Scarlet Letter*, Nathaniel Hawthorne had much to say about social condemnation and sexual restraint. Hester Prynne, conceiving a child out of wedlock (through a clandestine relationship with the pious young Reverend Dimmesdale), was condemned as an adulterer by her puritanical (male) elders. They sentenced her to wear a cloak emblazoned with the bright red letter "A" as a way of marking her as an outcast woman "deeply branded" [4] and imposing on her a repressive restraint. Undeterred, Hester Prynne, bowing neither to social disapprobation nor withdrawing in shame, instead lived proudly, raising her daughter Pearl, "the unpremeditated offshoot of a passionate moment" [5]. How is it that such a classic piece of American Literature can inform the discussion with our patients around hPV? In the following way:

Let not the presence of hPV in, on or around us be used to condemn us.

Despite what Gardasil advertising would have us think:

- 1) hPV is not a new virus: 3000 year old Egyptian hieroglyphics identify potential hPV effects in women [6].
- 2) hPV is ubiquitous throughout the human population [7] – in fact sufficiently ubiquitous that it is named after us; it's our virus. And questionably worthy of singling out for eradication given the mutability of viruses, hPV subtypes 16 and 18 are each one of a vast host of hPV subtypes (more than 100+ and counting [8]) which are simply part of the great variety of micro-organisms finding convenient opportunities for colonization in humans.
- 3) There is not a static subset of women genitally "infected" with hPV (or men for that matter): single-point-in-time cultures demonstrate hPV in 27% of sexually active women with a lifetime risk of infection calculated at >80%. Even more to the point, 5% of sexually naïve 14-18 year olds have been found culture positive for even the "high risk" hPV [7].
- 4) hPV is not purely a sexually transmitted disease any more than is... influenza when transmitted between intimate

partners. Admittedly HPV is a socially transmitted virus, exchanged through human contact, be it casual or intimate, but it is the particular tissue tropism of each subtype that determines where, in or on a person, it preferentially establishes itself. Not simply semantics, the great variety of tissue tropism displayed by HPV subtypes explains the variety of the virus' presentation: plantar warts, vocal cord polyps, tonsillar and anal cancer, and the warts found innocently on the fingers of primary school children.

To be accurate there are "genital" subtypes that indeed display a tissue-trophic preference for genital anatomy, but emphasizing the one and grouping the whole into a single biologic behavior dependant on sexual behavior to make an advertising hook is inaccurate, deceptive and damaging.

Despite what Gardasil and HPV advertising would have us do, health care providers – and for that matter politicians as well – should not perpetuate the subtle and manipulative message: that like the letter "A", the presence of HPV is grounds for repressive restraint and social disapprobation. To my colleagues in gynecology and primary care, be careful how we use the word "STD" in speaking to patients about the presence of HPV revealed in routine testing: HPV is as old as the hills, ubiquitous as any other microorganism colonizing our bodies, and is nowhere near an exclusively genital resident. The biology and natural history of its more notorious subtypes should not give us permission to cast either the whole HPV population nor its human host in the same critical light. Like Hester Prynne, women should not be diminished by the ad man's misrepresentation of a common

biology, and certainly not by the fact that, as humans, we are host to HPV. Rather, we should recognize the advertising of Gardasil and hyping of HPV as being manipulative of science and manipulative of women through fear of social ostracism; we must make a conscious effort not to perpetuate such a message. Notwithstanding continued respect for HPV's oncogenic influence, for our patients we should place HPV into the context of the host of microorganisms – E Coli, influenza virus, Staphylococcus, Gardnerella vaginalis etc. – that we are proud to call our own: a microorganism that can harm us but should not condemn us to wearing the scarlet letters "hPV".

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