SKIN

CLINICAL MANAGEMENT RECOMMENDATIONS

Dermatology and Vaccines: A Call to Arms

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There are several dermatology-related vaccines – such as those directed against human papilloma virus (HPV), measles, mumps, and rubella (MMR), varicella, and herpes zoster. Efficacy, safety, and cost-effectiveness of vaccines are well-established, but significant controversy surrounds their use, with ongoing debate over their utility and side effects. The result is a vocal anti-vaccine movement that is threatening the health and welfare of millions. The World Health Organization (WHO) has included vaccine hesitancy, "the reluctance or refusal to vaccinate despite the availability of vaccines," among the top ten health threats worldwide in 2019.[1]

This robust anti-vaccine movement continues to flourish, even though vaccines prevent 2-3 million deaths per year[1] and can prevent and treat some cancers. For instance, the 9-valent HPV vaccine (Gardasil) is available in the United States. It protects against HPV 16 and 18, which account for at least 70% of cervical cancers,[2] in addition to offering protection against HPV strains that cause anogenital warts. More than 30,000 HPV-associated cancers annually are caused by strains that are covered by the 9-valent vaccine.[3] In addition to serving as a preventive tool, HPV vaccination may be an effective treatment for warts, basal cell carcinoma, and squamous cell carcinoma.[5]

The Centers for Disease Control and Prevention (CDC) recommends HPV vaccination for teenagers 11 to 12 years old – two doses at 6-12 months apart. Immunization can occur as early as 9 years of age. For children 15 years or older, three doses are recommended. Recently, the FDA has approved the use of Gardasil for men and women up to 45 years old, providing additional protection for adults who may not have been previously exposed to all 9 HPV types. The HPV vaccine should not be given to pregnant women, although pregnancy testing is not necessary before immunization.

Despite its benefits, overall acceptance of HPV vaccination has been modest at best, possibly due to lack of widespread availability of accurate information, a false perception that only sexually active adolescents should receive the vaccine, social stigma, financial barriers, and the need for multiple doses.[6] Some physicians present the HPV vaccine as "optional," instead of firmly and clearly framing the vaccine as a non-negotiable tool to prevent disease.

The MMR vaccine is another important vaccination in dermatology as it prevents measles, mumps, and rubella. The current recommendation is administrating two doses of the vaccine – the first at 12-15 months and the second at 4-6 years. A third dose can be

employed in target populations with a high risk of mumps.[7]

With widespread adoption of the MMR vaccine, measles was thought to have been eliminated in the United States as of 2000. However, the incidence of measles has risen drastically, in part due to the anti-vaccine movement and decrease in vaccination rates. More than 1200 cases of measles have been reported this year in the United States, the highest number since 1992.[8] Globally, the incidence of measles has increased by 30%.[1] As a result, physicians, especially pediatricians and dermatologists, will see more patients, both children and adults, with measles.

Some vaccinations are less controversial than others. The recombinant herpes zoster vaccine (Shingrix) has become popular, leading to supply shortages.[9] The vaccine reduces the risk of herpes zoster dramatically, with greater than 90% efficacy in clinical trials.[10] It also reduces the risk of post herpetic neuralgia. Shingrix is recommended for healthy adults over the age of 50 years old, administered in two doses separated by 2 to 6 months.[11]

It is important to emphasize that vaccines are not just for children. Many vaccines are recommended for adults, such as the herpes zoster vaccine, pneumococcal vaccine in those with certain co-morbidities, and a yearly influenza vaccine. The influenza vaccine is essential regardless of immunosuppression, as older adults account for the majority of influenza deaths in the United States.

While many patients are worried about side effects, true allergic reactions, including anaphylaxis, are rare. Most side effects are minor and include fever, localized injection site reaction, and rash. Live vaccines including MMR, MMRV, varicella, live-attenuated influenza virus, live herpes zoster (Zostavax), and Bacille Calmette-Guérin (BCG), are contraindicated in immunosuppressed patients and in pregnant women. A standard practice is to delay vaccination in the presence of a moderate or severe acute illness. The CDC has a list of contraindications and precautions available on its website[17] and also provides immunization schedules and patient education materials, a valuable tool for dermatologists to be familiar with.

While strong evidence exists regarding the safety and efficacy of vaccinations, such information is not widely disseminated to the general public. Social media is partially responsible for perpetuating anti-vaccination ideas, with common themes apparent – “trust” (suspicion of the scientific community), “alternatives” (a desire for a homeopathic approach instead of vaccination), “safety” (concern about risks of vaccinations), and “conspiracy” (suspicion that the government and others are hiding information about vaccines).[12] To their credit, Facebook[13] and YouTube[14] have agreed to decrease the presence of the anti-vaccination platform on their websites. By providing targeted, accurate, and direct messaging, social media can be instrumental in combatting distorted information. Additionally, the WHO provides modules to help guide discussions with patients and address anti-vaccination attitudes, even providing sample answers to commonly asked questions.[16] Along with appropriate counseling, dermatologists should direct patients to a primary care doctor, nearby clinic, or pharmacy where vaccines are available.

Vaccines are a safe, cost-effective way to reduce the risk of many infectious diseases. Unfortunately, many physicians have assumed a passive role in promoting

vaccination, possibly due to lack of familiarity with individual vaccines or time constraints. Despite these challenges, dermatologists must be advocates for vaccination and protect the health of patients.

Vaccination is absolutely essential to public health, and all physicians should consider vaccination a "call to arms." Physicians are a trusted and influential resource for patients and should be advocates and leaders in endorsing the role of vaccination in preventing disease and promoting overall health. They owe it to their patients, themselves, their families, and the greater good. It's the right thing to do. Period.

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