OPEN

Dr. Madeleine Duvic: Profiling women dermatologists' contributions to HIV research and treatment

Dear Editors,

We are writing this letter to highlight advances in HIV research and treatment that have been made possible by women dermatologists, whose contributions we believe are especially important to acknowledge during the current climate of the COVID-19 pandemic.

Dr. Madeleine Duvic is the deputy chair of the Dermatology Department at the University of Texas MD Anderson Cancer Center. She recalls her third year of medical school at Duke University as a formative experience that led to her future career in dermatology, immunology, and translational research. She was given the chance to plan her electives, and she delved into immunology through a course at the NIH and into dermatology through a rotation at Duke. She then trained in both dermatology and internal medicine, having been serendipitously offered a dermatology residency position during her internship in internal medicine. After finishing her dermatology residency, she also completed her internal medicine residency.

While an internal medicine resident at Duke University during the late 1970s, Dr. Duvic encountered a patient with a striking set of opportunistic infections including candida, histoplasmosis, and HPV. She recognized the likely etiology of the patient's state: an "acquired immunodeficiency." At the time, such a presentation was rare and inexplicable. Yet by the early 1980s, the HIV epidemic had taken hold. Dr. Duvic spent much of her early career in the 1980s and 1990s involved in rigorous and groundbreaking research into HIV. She established a dermatology clinic at the University of Texas MD Anderson and was soon flooded with HIV-infected patients afflicted by unusual skin lesions. During a time in which the cause of HIV was not yet known and prejudice abounded, she immediately set to work to meet the needs of her patient population.

Dr. Duvic observed ways in which HIV manifested as skin disease, and in 1985, she reported an association between HIV and psoriasis.[1] She also operated a laboratory, and her group discovered the involvement of cytokines such as TNF-alpha in HIV-associated psoriasis.[2] This work affirmed psoriasis as an immunologic disease and generated new insights into its treatment. In 1994, Dr. Duvic and colleagues reported that zidovudine therapy could profoundly improve HIV-associated psoriasis.[3] Dr. Duvic and immunologist Dr. Dorothy Lewis also demonstrated that the HIV virus was present within psoriasis and Kaposi's sarcoma lesions of HIV-infected patients, indicating that HIV could be directly involved in the pathogenesis of these conditions.[4] In conducting this research, Duvic's group became the first to use confocal microscopy to detect in situ hybridization of HIV mRNA in skin lesions.

Today, Dr. Duvic devotes much of her time to the research and care of patients with cutaneous T-cell lymphoma (CTCL). She looks back on her early career in HIV research with fondness and draws comparisons between the two conditions. CTCL is a cancer resulting in too many T lymphocytes, whereas HIV involves depletion of T lymphocytes. In a way, this makes them "yin and yang," as Dr. Duvic calls them, two opposing conditions that Dr. Duvic has dedicated her life to treating.

Author contribution

D.W. interviewed Dr. Duvic and drafted the manuscript. W.J. reviewed the manuscript.

Conflicts of interest

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What is known about this subject in regard to women and their families?

- The HIV epidemic began in the early 1980s, at which time several dermatologists played a vital role in HIV research and treatment.
- Little has been published in the historical literature about the contributions of dermatologists to HIV research during this time, in particular those made by female dermatologists.
- In the time of the COVID-19 pandemic, it is important to recognize the contributions of female dermatologists to the treatment of other infectious diseases including HIV.

What is new from this article as messages for women and their families?

- Dr. Madeleine Duvic, the Deputy Chair of the Dermatology department at the University of Texas MD Anderson Cancer Center, is one of the major dermatologists who researched HIV at the start of the epidemic.
- Dr. Duvic reported HIV-associated psoriasis and described its improvement with zidovudine, an HIV medication.
- Through novel laboratory work, Dr. Duvic also identified the presence of the HIV virus in psoriasis and Kaposi's sarcoma lesions of HIV patients.

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David M. Weiner, AB[a,*],
William D. James, MD[a]
[a] *Department of Dermatology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA.*

*Corresponding author.
E-mail: david.weiner@pennmedicine.upenn.edu (D. M. Weiner).