COMPELLING COMMENTS

Nobel Niels

Jacob E. Benavidez, BS[1]

[1]University of Texas Medical Branch School of Medicine, Galveston, TX

Niels Ryberg Finsen's (1860–1904) realization of light's therapeutic application, particularly for lupus vulgaris, earned him the 1903 Nobel Prize in Medicine.[1] Presently, phototherapy is a treatment staple for various cutaneous disorders, but its inspiration and elucidation are resultant of the Faroese physician's struggle with Niemann-Pick disease.[1] Bathing in the sun, Finsen experienced reduced fatigue from his disease, inspiring his life's work.[1] Finsen developed a lamp with a quartz lens and an artificial light source generated by electric carbon arcs. This phototherapeutic apparatus, known as the Finsen Light, helped Niels become dermatology's Nobel Laureate.[1] Niels's disease manifested in 1883, but with the Finsen Light and persistent effort, he developed a treatment for smallpox using red-light, and by taking advantage of ultraviolet radiation's bactericidal effect, a treatment for the cutaneous manifestation of tuberculosis, lupus vulgaris.[3]

In 1893, Finsen observed that exposure to red-light prevented the suppurative pustulation of smallpox and reduced scar pigmentation if treated before the fifth day of disease.[2] Explanation of this phenomenon is rooted in light's behavior; a red lens permits red-shifted light's shallow dermal penetration while refracting blue-shifted light.[2] In 1895, drastic improvements were observed within only four days in a lupus vulgaris patient treated with concentrated light rays. With this, dermatology welcomed Finsen's phototherapy.[3] Finsen's work garnered the attention of the global medical community.[1] In 1896, with support from Copenhagen's mayor and generous donors, the Finsen Institute was established with Niels as its first director.[1] Within a few years,

Finsen Institutes were erected across Europe and North America.[1]

Niels endeavored to relieve his disease, and although phototherapy endures, he could not escape time's pursuit. Though wheelchair-bound and unable to accept his prize personally, his phototherapy and Nobel-worthy efforts paved a new avenue of treatment for dermatology. As phototherapy's spectrum of cutaneous applications expands, Finsen's legacy thrives.

Conflict of Interest Disclosures: None.

Funding: None.

Corresponding Author:
Jacob E Benavidez, BS
The University of Texas Medical Branch
Galveston, TX
Jacobbenavidez7@gmail.com

References:

1. Grzybowski A, Pietrzak K. From patient to discoverer—Niels Ryberg Finsen (1860–1904)—the founder of phototherapy in dermatology. Clinics in Dermatology. 2012;30(4):451-455. doi:10.1016/j.clindermatol.2011.11.019.
2. Finsen NR. The Red Light Treatment of Small-Pox. Bmj. 1895;2(1823):1412-1414. doi:10.1136/bmj.2.1823.1412-a.
3. Moller KI, Kongshoj B, Philipsen PA, Thomsen VO, Wulf HC. How Finsen's light cured lupus vulgaris. Photodermatology, Photoimmunology and Photomedicine. 2005;21(3):118-124. doi:10.1111/j.1600-0781.2005.00159.x.