

# Control of Pathogens of Integument and Mucous Membranes -- a Conservative Approach

R. Vincent Davis, DC, PT, DNBPM

Cold quartz ultraviolet radiation (CQ-UV) is the most energy-bearing wavelength in the ultraviolet spectrum. It has a wavelength of 254 nm (2537 Å), and when administered by devices designed for clinical application delivers over 90 percent of its rays in the 254 nm range. At this wavelength intensity the energy contained therein has been shown to result in cell death when absorbed by any micro-organism. Upon absorption of CQ-UV radiation by pathogenic micro-organisms, the pyrimidine base fraction of DNA, known as thymine, undergoes dimerization. Absorption of CQ-UV by about one to two percent of the respective thymine fraction of DNA is sufficient to result in suppression of the cellular DNA synthesis, which of course results in death of the pathogen. This DNA synthesis suppression is for a period of about 24 hours. Re-exposure should, therefore, be avoided for 24 hours.

Proper clinical application of CQ-UV requires that it be administered following the clinical performance of a minimal erythematous dose (MED) test which will be performed on the patient on which it will be applied. This test may be obtained by referring to appropriate texts on the subject, or by contacting this author for information.

CQ-UV irradiation is effective in treating those pathogens which are in the vegetative state, and therefore located sufficiently superficial to the surface of the skin or mucous membrane in question, to allow for direct exposure to the incident rays. Because some pathogens are located deeper in the tissues than the incident rays may be able to penetrate, it may be necessary to apply more than one application of MED to eradicate the pathogens which become vegetative over time. For this reason, it may be necessary to repeat the application after at least a day of nonexposure.

CQ-UV exposure is not recommended where ophthalmic application is required in the absence of an ophthalmology consult. Also, oral antibiotics are commonly the treatment of choice in clinical medicine in this era except in the treatment of viral infections. This author has been pleased with the success of treating patients with CQ-UV, especially in those cases where the patient was sensitive to antibiotics. CQ-UV treatment is not recommended of course for infections which involve a systemic route. It has been used effectively in infections involving herpes simplex 1, herpes zoster, beta-hemolytic streptococci, and impetigo to mention a few.

## References

- Davis RV. Therapeutic Modalities for the Clinical Health Sciences, 2nd ed. Library of Congress Card #TXu-389-661.
- Griffin and Karselis. Physical Agents for Physical Therapists, 2nd ed. Thomas Publishers, 1982.
- Krupp and Chatton. Current Medical Diagnosis and Treatment. Lange Publications, 1980.

R. Vincent Davis, DC, PT, DNBPM

*Independence, Missouri*

MARCH 1997

©2024 Dynanamic Chiropractic™ All Rights Reserved