Position on Topical Hydroquinone

Support:

- State policy on drug availability which mirrors FDA findings
- Evidence-based decisions on the availability of drugs
- The safe use of hydroquinone products and formulations
- Continued studies to assess possibilities of carcinogenic risks and exogenous ochronosis from topical use

Oppose:

- Additional restrictions placed on hydroquinone that are not supported by clinical evidence
- The use of hydroquinone products which have not been manufactured under safe, regulated conditions
- Illegal import and use of unapproved hydroquinone products
- Use of prescription-grade hydroquinone without a physician's oversight

Hydroquinone is a drug which has been used for many years to lessen the appearance of sun-related skin discolorations and other undesired hyperpigmentation disorders. Hydroquinone predates the formation of the Food and Drug Administration (FDA)'s Drug Efficacy Study Implementation program, and thus some formulations were never studied for safety and efficacy.

In 2006, the FDA proposed a ban on over-the-counter (OTC) hydroquinone and recommended that the drug be studied further by the National Toxicology Program (NTP)[i]. The FDA's primary concerns were that hydroquinone may cause cancer and that it has been linked to ochronosis (skin darkening and disfiguration) in humans.[ii] In the interim, the FDA recommended that hydroquinone remain available for OTC use.

The Coronavirus Aid, Relief, and Economic Security (CARES) Act reformed the FDA monograph process for OTC products which made significant changes to the way certain OTC drugs including hydroquinone are regulated in the US. As a result of the changes based on the 2006 proposal OTC products containing hydroquinone are not FDA approved for over-the-counter sale. The FDA has received reports of side effects including skin rashes, facial swelling, and ochronosis (discoloration of skin) from the use of skin lightening products containing hydroquinone.[iii]

As of September 2020, hydroquinone is available only for prescription use. The FDA approved hydroquinone monotherapy cream is a 4 percent concentration of hydroquinone. A 4 percent hydroquinone formulation is additionally available in an FDA approved formulation with two other ingredients. There are also compounded increased concentrations available by prescriptions at specialty pharmacies.

The FDA's 2006 actions were based on studies in which hydroquinone was taken orally. At that time, the FDA stated that hydroquinone cannot be ruled out as a potential carcinogen. This conclusion was centered on a two-year study of the oral administration of hydroquinone on rats.[iv]

There have been no reported incidences of cancer from topical application of hydroquinone in humans. Though health concerns are related to oral ingestion of hydroquinone, concerns over topical toxicity and carcinogenesis have been raised but not validated when the product is used correctly as directed under the supervision of an appropriately trained, licensed physician.[v]

The causal effect of products containing hydroquinone and skin darkening (cutaneous ochronosis) is unclear. It is yet to be established whether cutaneous onchronosis is a direct result of the effect of hydroquinone alone, or other substances present in formulations, or higher concentrations of hydroquinone present in many countries around the world.[vi]

One of the primary concerns with relation to the topical application of hydroquinone is depigmentation. However, this is not widespread, nor does hydroquinone induce vitiligo. Patients may have vitiligo, but additionally have hypermelanosis, post-inflammatory hyper pigmentation and/or melasma. In these cases, even though the patient has vitiligo, which is an autoimmune mediated disease that destroys the melanocytes, hydroquinone is still prescribed for treating hyperpigmentation.

Serious and fatal side effects have not been reported with hydroquinone with higher concentrations, such as 4 percent. Rather, such side effects have either resulted from feeding rats oral doses of hydroquinone and/or such side effects are purely speculative rather than a result of any reported adverse events. Hydroquinone has been used for decades topically in the 4% or other higher and lower concentrations in the United States without such serious and fatal side effects.

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