

Intravenous glutathione for fair skin; to give or not to give?

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Madam, white skin in Asia has traditionally been associated with higher social status and wealth. The boom in the beauty market has been extraordinary. In India, the skin lightening cosmetic market alone is worth 1000 crore.¹

Many skin lightening agents are available over the counter. These contain hydroquinones, mercurials, topical steroids, kojic acid etc. that can cause severe adverse effects like irritant and allergic contact dermatitis, exogenous ochronosis, infections and systemic problems making them illegal in a lot of countries.² Health campaigns around the world have focused on educating communities about the dangers of skin bleaching. Despite these efforts, new agents are being introduced every day. This includes 'Glutathione' which is becoming very popular in the Asian beauty market.

Glutathione is a tripeptide of cysteine, glycine and glutamate. Its functions in the body include antioxidation, maintenance of redox state, modulation of immune system and detoxification. Reasons for its skin lightening effect include: its antioxidant properties, ability to switch eumelanin to pheomelanin which is the type of melanin found in lighter skin-toned individuals and the inhibitory effect it has on tyrosinase which is a key enzyme in melanogenesis.²

Handog EB et al investigated the use of lozenge containing GSH administered to thirty Filipino women. The baseline melanin indices of these women decreased and no adverse effects were reported.³ Thus, the oral form is "generally regarded as safe" by the FDA but it has not yet been approved for intravenous use for skin

whitening.¹ Reported side effects of intravenous glutathione include neuro, renal and hepatic toxicity, transient headaches and dangerous cutaneous eruptions. Other potential risks of intravenous use include transmission of infectious agents, such as HIV, hepatitis C and B.² This is of particular concern when non-medical practitioners give this treatment.

Many manufacturers of glutathione products claim it to be safe, natural and effective. Although the mechanism of action of GSH favours its use as a skin lightening agent, there is lack of evidence. The safety profile of oral and topical GSH is rational but intravenous use needs more studies. L M Davids et al found no clinical reports of GSH IV use in his study.⁴

It is the urgent duty of dermatologists to educate the masses about the use, safety and mechanism of glutathione. But perhaps more than that, there is an intense need in our society to embrace all skin tones and redefine our beauty standards.

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