



## Antioxidant Uses for Skin Aging and Skin Care: A Short Note

Shinyam Anikata\*

Department of science, Kyushu University, Fukuoka, Japan

### ARTICLE HISTORY

Received August 16, 2021

Accepted August 30, 2021

Published September 06, 2021

### Antioxidants and Skin Aging

Antioxidants are the chemical compounds which prevents or slow down the damage to cells that are caused by free radicals. The antioxidants in times are also called as free radical scavengers and this antioxidants source might be natural or artificial. The antioxidants are highly helpful to boost the overall health by neutralizing free radicals present in our bodies. It is studied that our skin is under attack constantly by free radicals which can damage the cells and cause ageing. These free radicals are mainly formed from; sunlight, pollution, harsh chemicals, illness, stress, cigarette smoke, lack of sleep and bad diet.

Generally, aging is defined as a complex biological process, as it instigates the progressive deterioration of anatomical structures and physiological functions of the organs. Different by products can be generated by normal cellular oxidative metabolism which is responsible for molecular damage, thus lend to skin aging. Aging is most common thing in each and every individual with age/time and the changes were clearly visible. The changes that are seen upon skin aging are loss of elasticity which leads to wrinkles, loss of thickness of the skin and alterations in skin colour. Numerous external factors like air and water contaminants, smoking and toxic drugs can represent a cause of free radicals production, therefore induces skin aging. Pollution is also one of the major role which cause deleterious effects on the skin. Aging is divided into two different categories which are known to be chronological aging and premature aging. Now a days to cover the effects of aging, many people are undergoing with different kinds of treatments and surgery or externally applying many lotions, creams which can damage the skin most. However, all these practices could be very expensive, very invasive and may potentially lead to many other complications.

### Importance of Antioxidants to Skin Aging

As we know that skin is the largest organ of our body, we have to keep it nourishing all the time. For this we have

to use a beneficial ingredient like "Antioxidants" which is very much important and useful for skin in prevention of aging. By several researches it is clear and stated that, when it comes to anti-aging ingredients, antioxidants are essential and better the results when applied to the skin as it produces healthy and beneficial nutrients. The other reason that antioxidants are important as a part of antiaging is because it helps protecting the skin from toxic effects of free radicals that could damage and destroy healthy skin cells. Here, when free radicals are neutralized by one component of the skin antioxidant system, that particular component becomes oxidized and inactivated. So that, the other component of the skin antioxidant system will associate with a complex fashion to recycle the inactive components back to an active state in order to restore the antioxidant capability. In human skin both the water and fat soluble antioxidants are present naturally.

Now a days many antioxidants are available in topical and oral preparations like creams, lotions, tablets, and also by eating healthy food we can intake antioxidants. It is bit unclear that how effective the topically applied antioxidants can work on skin. But, by current research that is being done, it seems that the topical antioxidants can provide the following benefits, like; protecting the skin from UV damage, calming the inflammation occurred by free radicals and helps in slowing down the process of premature aging. Various combinations if antioxidants may have some synergistic effects. Each antioxidant is provided with numerous properties that distinguish it from other antioxidants. There are various antioxidant actives used in anti-aging formulations like; Retinoid or Vitamin A which increases the blood flow, stimulate the skin and protect from sunburns, therefore promoting skin elasticity, Alpha lipoic acid (helps in repairing aged skin and prevents future damage), Vitamin C (stimulates skin to promote collagen), Vitamin E (helps to repair the skin and protects from harmful bacteria), Coenzyme Q10 (helps to avoid wrinkles), Lycopene (strengthen

skin collagen), Tea polyphenols (helps to maintain the levels of glutathione), Silymarin (helps to prevent skin cancer and photo aging), Coffea Arabica extract (helps to reduce fine lines, hyperpigmentation and wrinkles), Grape seed extract, pomegranate extract, Pycnogenol (reduces inflammatory sunburn), Niacinamide (evens the skin tone and texture).

### **Conclusion**

By applying topical antioxidants one can look as young as we feel, because by applying a correct formulation of

topical antioxidants it provides a long lasting effect in the skin protecting from hyperpigmentation, photo aging, skin cancer, UV rays and from other free radical damage. Also antioxidants as a source of dietary intake play a fundamental role in protection against oxidative injury. Exogenic supplementation with dietary antioxidants or pre-treatment of skin with antioxidant based lotion application before exposure to sun can be very much helpful against the age related skin oxidative damage. Certainly, taking vitamins, polyphenol from plant sources on daily basis will also prevent age related diseases.