

INTRODUCTION

The skin is our principle organ of beauty, touch, pleasure and sexuality. It is the largest organ of the body, accounting for 12 to 16 percent of the body weight and covers 12 to 20 square feet (**Silverberg and Silverberg, 1989**).

Aging process is defined as progressive decreases in the maximal functioning and reserve capacity of all organs in the body, including the skin that suffers progressive morphologic and physiologic decrement with increasing age. This deterioration is enhanced cumulatively by various environmental, physical, chemical and mechanical insults (**Makrantonaki and Zouboulis, 2007a**).

Researches shows that there are, in fact, two distinct types of aging:

- Extrinsic aging** (photoaging)
- Intrinsic aging** (chronological aging)

Extrinsic aging

It describes characteristic changes in skin induced by chronic UVA and UVB exposure (**Taylor and Sober, 2006**).

Clinical signs of photoaging include dryness; dark/light pigmentation; either deep furrows or severe atrophy; telangectases; premalignant lesions; laxity and a leathery appearance. (**Kennedy *et al.*, 2003**).

Intrinsic aging

This process is mainly attributed to intrinsic factors, for example; genetic predisposition and changes in the endocrine environment and reflects degradation processes of the entire organism (**Shekar *et al.*, 2005**)

It is in contrast to photoaging, is characterized by laxity and fine wrinkling as well as development of benign growths such as seborrheic keratoses and angiomas (**Makrantonaki and Zouboulis, 2007b**).

There are microscopic differences in the two aging processes as well.

In chronologically aged skin, the epidermis is atrophic, with flattening of the dermal-epidermal junction and loss of rete pegs (**Kurban & Bhawan, 1990**).

The dermis also become thinner, with decreased number of fibroblasts and decreased level of collagen (**Frances and Robert, 1984**).

Photoaged skin in contrast, can be associated with either epidermal thickness or pronounced epidermal atrophy. The most obvious histological change is the accumulation of elastin-containing material just below the dermal-epidermal junction known as solar elastosis (**Lavker, *et al.*, 1995**).

For protection of skin from aging, sunscreen is the gold standard for photoprotection in association with antioxidants and moisturizers (**Bermann, 2007**).

In management of skin aging, there are many non invasive and invasive methods that play role in it, as topical retinoids, chemical peels, botox, fillers and laser as Carbon dioxide, Er: YAG and Fractional laser which is the most recent (**Alexiades-Armenakes *et al.*, 2008a**).