

TREATMENT OF EPIDERMAL MELASMA WITH A NEW PEEL (YELLOW PEEL)

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The treatment of benign hyperchromic lesions like melasma of the skin, is probably the biggest challenge to health care professionals and requires the correct training of all involved in skin care treatment.

The key to a successful treatment, is the knowledge of the physiopathology of lesions and a complete command of the pharmacodynamics of chemical substances which are capable of blocking the formation of melanin, and the smooth exfoliation of the skin. On the other hand, a wide medical knowledge base is fundamental, to allow an accurate diagnoses to be made, between a benign hyperchromic lesions of the skin, and those which are malignant or with the propensity to become malignant.

Melanin is a brown coloured pigment produced by the melanocytes, which is located in the basal layer of the skin, and is normally distributed by cells from other layers, which make up the epidermis. Occasionally, melanin can also be deposited in the dermic layer of the skin, which can create a difficult problem, from a therapeutic point of view. It is important to establish where the melanin is located so that a suitable therapy may be chosen, and to trace a prognosis of the treatment. The examination of the skin, with the help of a Wood's Lamp, can also offer a certain degree of safety in determining the location of the melanin within the skin.

Melasma presents as symmetrical hyperpigmented macules, which can be confluent or punctate. The macular hyperpigmentation of melasma is tan-brown in color and occurs in 1 of 3 patterns: centrofacial, malar and mandibular. In addition, the excess melanin can be visually localized to the epidermis or dermis by use of a Wood's lamp (wavelength 340-400 nm). Epidermal pigment is enhanced during examination with Wood's light, whereas, dermal pigment is not. All races are affected, but it may be more common in brown skin types, and is much more common in women than in men.

In some cases there appears to be a direct relationship with female hormonal activity, since it occurs with pregnancy and with the use of oral contraceptive pills.

Another important factor in the development of melasma is exposure to sunlight.

The main causes of Melasma are:

A – Pregnancy:

- Begins during the third trimester.
- Rarely do the lesions occur long after pregnancy.
- Can occur in later pregnancies, not necessarily in the first.

B – Oral Contraceptives:

- Lesions can occur 1-7 years after the start of taking oral contraceptive.
- The extent of the lesions does not correlate with the length of time that the patient has taken oral contraceptives.
- Melasma caused by oral contraceptives is usually more resistant to therapy than Melasma caused by pregnancy.

- Sunscreens that block primarily ultraviolet-B radiation (290-320nm) are unsatisfactory because longer wavelengths (ultraviolet-A and visible radiation, 320-700 nm) will also stimulate melanocytes to produce melanin.

Hydroquinone was for many years the chosen substance for blocking the production of melanin, and with the help of chemical exfoliation substances, such as Glycolic Acid and Retinoic Acid, was demonstrated to be a very efficient skin lightening agent. During the past decade, Hydroquinone has been gradually replaced by new chemical lightening substances, such as Kojic Acid and Phytic Acid, because of the instability of products that use hydroquinone (fast oxidation). Recently, documentation has appeared showing that hydroquinone is cytotoxic and destroys the wall of the melanocytes causing a definitive lesion, called **residual achromia**, and has no possible treatment.

Kojic Acid was proposed as a tyrosinase inhibitor in the beginning of the 90's, and offers the same benefits of hydroquinone, but without the cytotoxicity, however, its instability is still a problem yet to be solved.

Phytic Acid was first used clinically in early 1995 as a skin lightening agent. Basically it works by blocking the entrance of iron and copper in the formation of melanin. Phytic Acid is mainly found in the cereal seeds and, fruits seeds, and for years has been used as an anti-oxidant in the food industry, the alcoholic beverages industry, the auto industry (an anti-corrosion product for car radiators) in Engineering and Architecture (protecting metal surfaces against oxidation) and it is being widely used in Odontology (increases the resistance of odontologic cements and can increase the resistance of teeth against periodontal diseases)

As well as acting as a Melanin formation blocker, Phytic Acid was described by Pugliese (Peter Pugliese, MD. Philadelphia, USA) as an iron specific antioxidant and he demonstrated its chelated action on iron, copper and calcium. This antioxidant action is important to the skin, because oxidation stress is an important factor in the reduction of the inflammatory process, the precursor to postinflammatory hyperpigmentation lesions. Phytic Acid 2% to 4%, has proven to be very efficient in the treatment of epidermic melasma, when it is associated with Glycolic Acid or Retinoic Acid.

Yellow Peel is the latest, and weaker chemical peeling, which can promote the elimination of the epiderm, at different depths, and it can also be tailored to the type of lesion. This peeling uses the **exfoliant action** of the Retinoic Acid (in high concentrations) together with the action of three substances, (Phytic Acid, Kojic Acid and Azelaic Acid) which block the synthesis of Melanin. This peeling can be used for the treatment of **Epidermal Melasma, Benign Hyperchromic Lesions of the Epidermis, Superficial Wrinkles and Acne Sequels**. This peeling is easy to apply, and when repeated, can provide the same benefits as the more aggressive peelings.

Yellow Peel should be used in a thin and continuous layer all over the face, or only in the area that needs treating. After a superficial peeling using **Alpha Beta Complex Peel**; (the objective of which is to prepare the stratum corneum for a perfect and uniform penetration of the **Yellow Peel**).

Yellow Peel should be left on the skin for a continuous period of 2 hours and then removed with a neutral soap. Normally this treatment can be repeated for other periods of 2 hours, depending on the type of skin being treated or as recommended by the physician. During the treatment of Epidermal Melasma, this should only be repeated 2 – 3 times, it is enough to provoke a superficial epidermal peeling, offering the minimum inflammatory process, which is the ideal for Epidermal Melasma therapy.

For the treatment of wrinkles, acne sequels and photoaged skin, it is possible to re-apply the **Yellow Peel** for 5 or 6 applications of 4 hours, causing a large irritation of the skin, promoting an epidermal peeling (renewal of the epidermis at different depths according to the irritation), also, with this stimulation of the derme, superior benefits can be obtained in the treatment of acne sequels and medium wrinkles.

The post peel period which occurs after the application of the **Yellow Peel** should be treated with Vaseline® or Hydrocortisone ointment, applied various times during the day, until the skin loses the epidermal layer (3 to 5 days). After the skin loses the epidermal layer the skin should be kept moisturised for at least 5 more days. At the end of this period, skin lightener can be used without Retinoic or Glycolic Acids (eg: Stand By C Cream or Facial C Lotion / Mene Moy System which does not contain Hydroquinone).

The use of an efficient chemical free sunblock is required to avoid recidive of the lesions.