CHEMICAL PEELING AND CHEMABRASION

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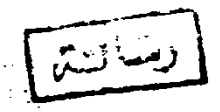

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بسم الله الرحمن الرحيم

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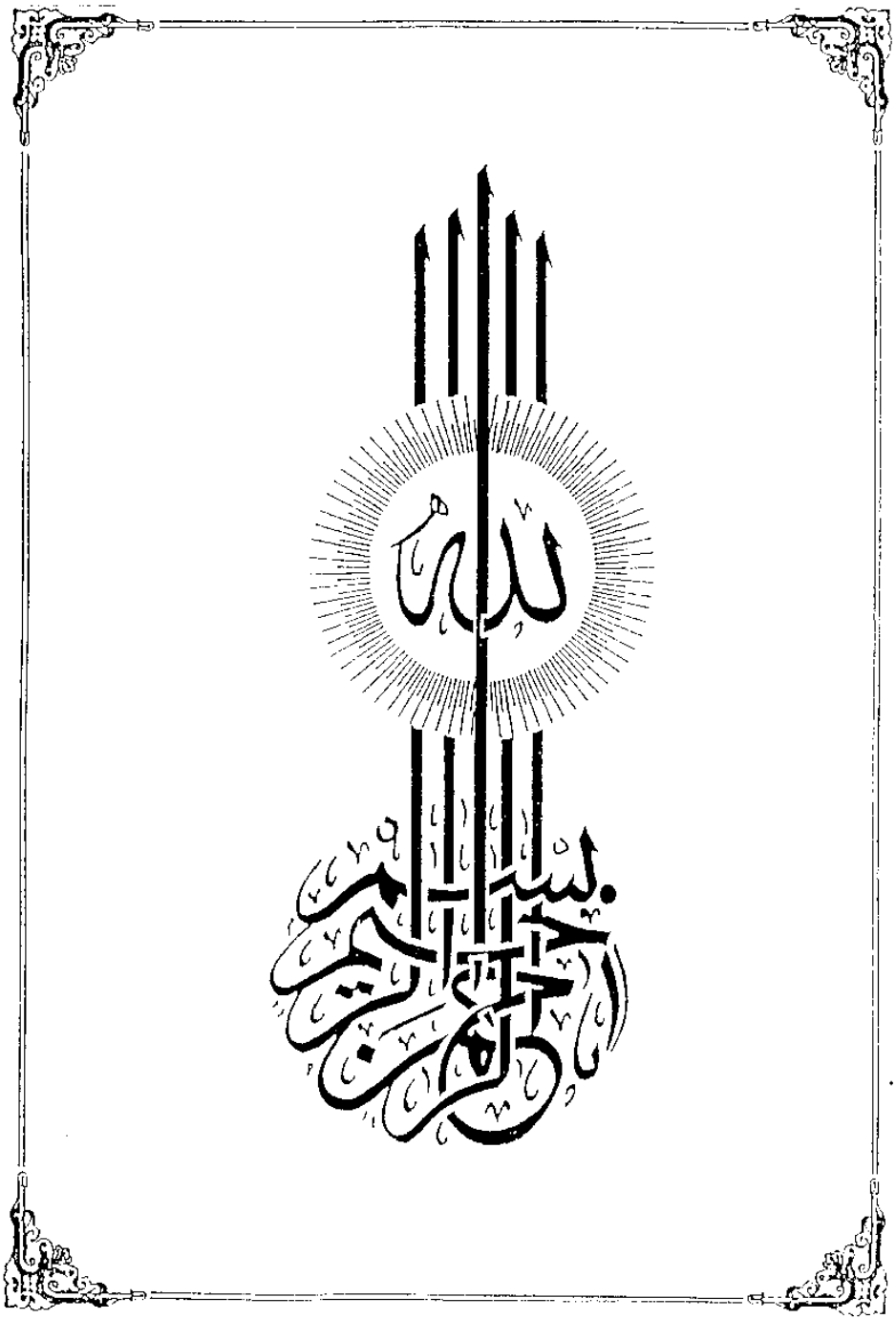

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C O N T E N T S

INTRODUCTION AND AIM OF WORK

Chemical skin peeling is a process in which chemicals are applied to the skin in order to produce alteration in the gross and microscopic anatomy of the dermis and epidermis. The procedure is used for removal of fine wrinkles in facial skin, pigment problems, keratosis, facial rhytides, and treatment of acne vulgaris. Phenol, trichloroacetic acid (TCA) and salicylic acid have been the most commonly used agents for the peeling process (Baker and Gordon, 1987).

The aim of the thesis is to try to enlighten the different new points on the indications, technique, complications of the chemical peeling and provide an adequate comparative study between chemabrasion and dermabrasion.

HISTORICAL BACKGROUND

Although there was no recorded evidence of beautification treatment among prehistoric people, they probably recognized and treated aging skin with abrasives, oils and other simple drugs known at that time. The Ebers papyrus contained great deal of information on cosmetic treatments by early Egyptian physicians. This document discussed methods of removing wrinkles and moles, dying hair and eyebrows, correcting squints, and other procedures for beautifying the body. Some of the medications especially mentioned, were mixture of alabaster, salt, extract of animal oils, and other similar items. Early chemosurgery probably took the form of certain types of acid treatments. Exfoliation of the skin was effectuated by directly using poultice from mineral and plant substances on the skin. Sulphur, mustard and limestone were known to have been used (Baker and Gordon, 1987).

Indian women were reported to have mixed urine with pumice and applied it to the skin to improve their appearance, although there was little evidence of any significant value in this preparation. Yet, it is reasonably believed

that similar oils, creams, and abarsives now employed for cosmetic purposes were probably prescribed by the medical men of those times (Baker and Gordon, 1987).

During the early part of the twentieth century, chemical face peeling was principally used by lay operators and gained considerable publicity through newspapers and women's magazines in the late 1950s. The miraculous results were illustrated with spectacular before and after pictures and were exhibited in the advertising of these "lay clinics" (Baker and Gordon, 1987).

Baker and Gordon (1961), reported that they have tried some of the keratolytic solutions on small laboratory animals. They used phenol solution to do the peeling on the forehead only. Later on they treated the rest of the face with encouraging results.

INDICATIONS OF CHEMICAL PEELING

Chemical skin peeling is a valuable tool for use in a specific number of circumstances. It is not a substitute for, but rather a complement to, aesthetic surgical procedures of the face Chemexfoliation (chemical peeling) is used to obtain both therapeutic and cosmetic benefits (Gordon and Baker, 1987).

1) Wrinkles of the skin:

One of the main indications is the presence of fine wrinkles of the skin. Chemical peeling is a safe and effective method for a long period of time for removing upper lip lines or rhytides (Baker and Gordon, 1979; Beeson and McCollough, 1985; Lober, 1987).

Chemical peeling has been found to be an extremely valuable adjunctive procedure to cervicofacial rhytidectomy to correct fine rhytides in the perioral area that are uncorrectable by convensional surgical means (Becker, 1983).

McCollough and Hillman (1980), found that chemical peeling produced good results following blepharoplasty. The

peeling caused tightening of the skin, thus removing the remaining fine wrinkles.

Chemabrasion is considered a non surgical procedure that improves the appearance of aging facial skin (Larrabee and Caro, 1984).

2) Abnormal pigmentary problems:

Chemical face peeling gives excellent results in correcting abnormal pigmentary problems (McCollough and Hillman, 1980). It is used in the treatment of blotchy hyperpigmentation as in chloasma of pregnancy, chronic hyperpigmentation due to overexposure to the sun, ephelides and hyperpigmentation secondary to various types of dermatitis (McCollough and Hillman, 1980).

Goldstein (1979), reported that simple application of strong caustics like salisylic acid, chloroacetic acids and phenol could remove the tattoo.

3) Acne scaring:

Chemical face peeling has produced favorable results in treatment of superficial acne scars (Mackee and Karp, 1952).

4) Actinic keratoses:

Collins (1987), stated that trichloro - acetic acid's peels are an excellent modality for treatment of actinic keratosis and actinic dermatitis.

Collins (1987), found that with the alarming increase in the incidence of severe facial solar radiation as manifested by multiple premalignant and in situ malignant lesions, therapeutic chemical peeling has become an increasingly important procedure. The dermatologic surgeon could not only eradicate the maltitude of facial lesions present but also markedly diminish the incidence of new lesions.

5) Post irradiation skin changes:

Wolfe (1982), believed that chemical face peeling produced favorable results following therapeutic irradiation. The marked wrinkling in the irradiation field would be later on improved.

SELECTION OF PATIENT

I. Psychological factors:

Selection of prospective patients is done only after a careful psychological and physiological survey is completed (Baker and Gordon, 1987).

McCollough and Langsdon (1987), believed that the patient should have an understanding of the chemical face peel procedure, including its limitations and risks, and alternative method of treatment. The patient should also understand that the color of the skin would be altered by chemical face peeling. Both the patient and the family should understand how he or she would look during the first few days after the chemexfoliation.

Prior to the procedure, several preoperative photographs should be taken. McCollough and Langsdon (1987), recommended taking full-face, lateral and oblique (three quarters) views. When considering special areas such as perioral and periorbital regions, a close-up view is recommended.

II. Sex of patient:

Male patients are generally not as favorable candidates for chemical face peeling as females, because they usually do not use make-up and may have more difficulty in camouflaging the color differences between peeled and nonpeeled areas (McCollough and Langsdon, 1987).

III. Type of skin:

a) Skin color:

The ideal patient is best described as a fair-complexioned person (Beeson and McCollough, 1985).

Gordon and Baker (1987), feared to use the procedure on olive-skinned, mediterranean type patients, particularly in those young women who have chloasma of pregnancy or chloasma following the use of birth control pills. But, they found that this kind of skin responded quite well to the peeling, as far as color match between the treated and untreated areas.

Larrabee and Caro (1984), believed that light skinned individuals are better candidates than dark skinned persons.

In 1986, Pierce and Brown stated that chemical peeling bleached the skin and therefore, the darker skin presented problems with the color contrast between treated and untreated areas.

b) Skin texture:

Baker and Gordon (1987), reported that chemical peeling of delicate thin skin produced a natural appearance with more uniform coloring than the coarsely textured skin that was thick and oily. The latter type tends to have lesser response to the chemical peeling and was found to be more liable to undergo blotchy pigmentation with subsequent exposure to the sun.

c) Freckled red headed patient:

Chemical peeling done to freckled skinned patients who are basically quite fair and red headed, resulted in the most dramatic and most unpleasant contrast between the treated and untreated areas. In those people, the peeling removed all of the fine wrinkles and the freckles as well, leaving a very

fair color and sharp contrast to the non treated areas of the neck or adjoining face (Gordon and Baker, 1987).

d) Sun damaged skin:

If the skin is sun damaged and has considerable pigmentation on his/her face along with the fine wrinkling, peeling will result in smooth, but much lighter skin. This is not an unpleasant appearance but there will be a problem of contrast in color between treated and untreated areas of the face and neck. This difference in color usually results in a sharp line of demarcation at the edge of the treated area in such sun damaged skin (Gordon and Baker, 1987).

IV. Life style:

Beeson and McCollough (1985), found that patients whose life style or activities provided them with excessive sun exposure, should be given careful consideration before being accepted for chemical face peeling. Patients who wear little or no make-up should be carefully reviewed, for it could be difficult for them to cope with the possible post-operative pigmentary changes.