

SURGICAL INDICATIONS IN DERMATOLOGY

Thesis

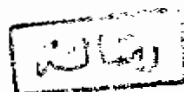
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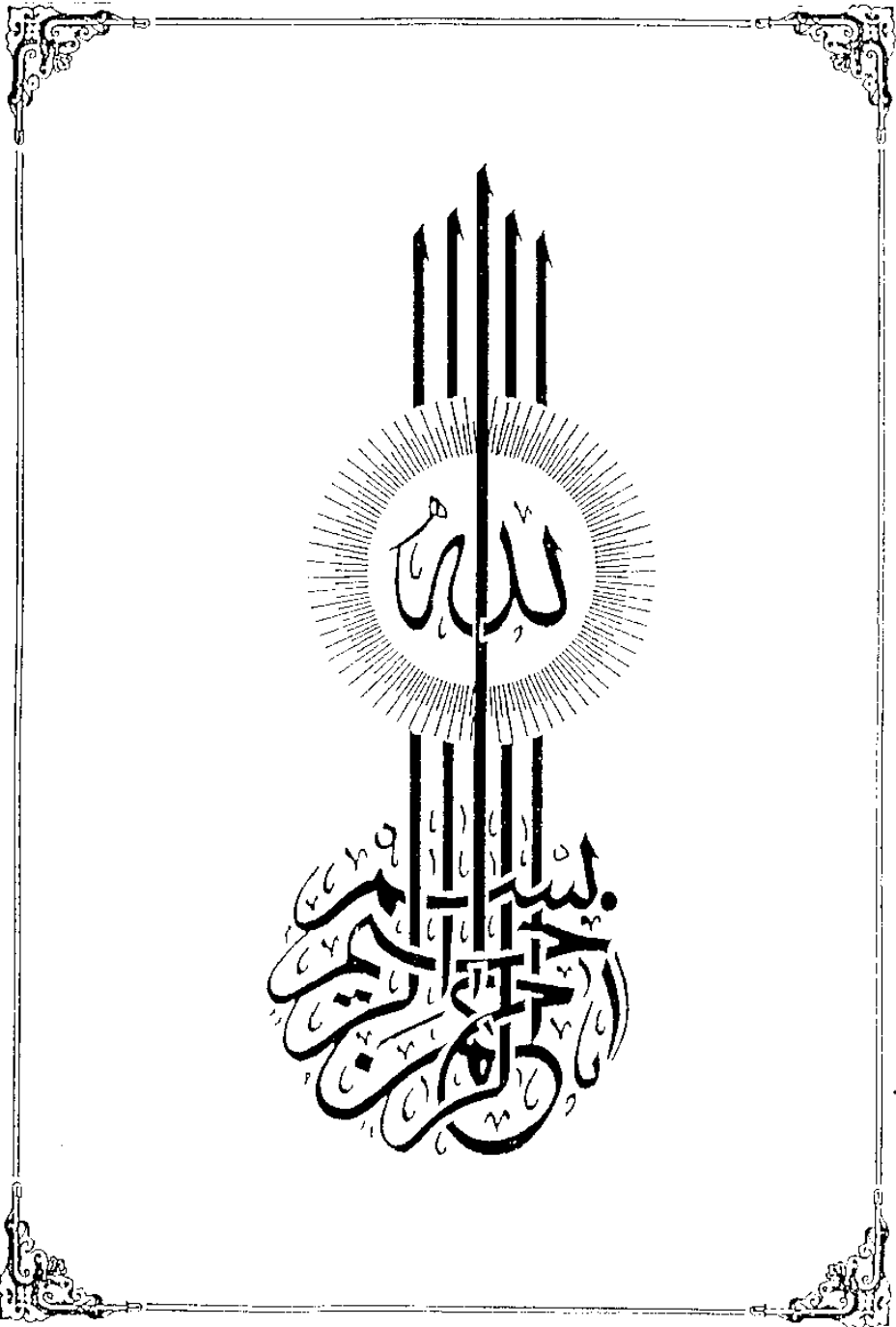
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INTRODUCTION

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For many years, the practice of dermatology has been both a medical and surgical speciality. There are scores of surgical procedures that are routinely performed in the dermatologist's office, and the number and scope of such procedures are increasing rapidly. Many of these procedures are for the treatment of cosmetic problems (Stegman and Tramoirtch, 1982).

"Dermatologic surgery" might be an excisional or destructive measure that is employed in the management of cutaneous dearrangement. Although this definition includes scalpel surgery, it does not embrace non dermatologic plastic surgical procedures such as face lifting or major skin grafting. In addition, to cold steel excision, other methods included within this definition are electrosurgery and certain special procedures such as dermabrasion, cryosurgery and chemosurgery (Epstein, 1962).

All dermatologists use many surgical procedures in their practice, such as curettage, electrosurgery, cryosurgery and conventional scalpel surgery. It has been estimated that up to one half of patients in dermatologist's office undergo surgical procedures. Over and above that, hair transplant surgery, Mohs' chemosurgery and fresh tissue chemosurgery, dermabrasion and "face peeling" with dry ice slush, trichloroacetic acid and phenol were developed by dermatologists (Resink, 1980).

The uses of dermatologic surgical procedures are

- Treatment of cutaneous benign lesions.
- Management of cutaneous Malignant Tumours.
- Management of acne scarring.
- Chemical face peeling.
- Surgical management of alopecia and male pattern baldness.

In this review we are concerned with some surgical procedures that are in common use in dermatologist's office practice:

1. Cryosurgery
2. Electrosurgery
3. Laser therapy
4. Surgical removal of tattoos.
5. Hair transplantation.
6. Dermabrasion.
7. Chemosurgery.

Hair Transplantation

Baldness has afflicted humans for over 5,000 years, as evidenced by ancient prescriptions found on Egyptian papyri. Lotions and pommades ranging from snake oil to camel dung were prescribed in hopes of effecting a cure. Even the Bible sympathized with those who had bald pates, but could offer no remedy for hair restoration. To date, within the sphere of medically accepted methods, no topical or internal application has been universally successful (Stough and Cates, 1981).

The correction of baldness in a man leads to a more youthful appearance than does correcting his wrinkles. This is probably the reason that scalp transplants are one of the most popular forms of esthetic surgery performed on man (Coiffman 1977).

Hair transplantation is simply the redistribution of hair from areas of scalp possessing hair of high longevity to the prematurely bald area. Hair transplantation is successful because each hair follicle maintains its inherent longevity despite its transference to another location (Vallis, 1980).

Hair transplantation surgery is based on the proposition that the grafts transplanted from an area with adequate density of hair will follow the growth pattern of the donor site, that is when the donor site becomes bald, the graft will also lose its hair. Consequently, the parietal and

lower occipital areas are used as donor sites, since these areas are the last areas to become bald (Vallis, 1967).

Political leaders have long felt that male pattern baldness detracts from the necessary public image of youth and masculine vigor. It has been written that Julius caesar's enemies constantly referred to his bald head. Many honors were voted him by the senate and the people, but none pleased him so much as the privilege of wearing a laurel wreath that covered his bald pate (Pacian, 1971).

Since the time of Julius caesar, various hair prostheses have replaced the laurel wreath in an effort to correct the male pattern baldness. They had varying degrees of success, but have never been totally accepted (Clahaugh, et al. 1973).

In 1959, Orentreich demonstrated that autografts offer a practical approach to the reversal of male pattern baldness. Since then physicians have and will continue to be faced with growing numbers of requests of hair transplants.

Vallis (1980), mentioned that the age of hair transplantation actually began in the early 1960'S following the publication in 1959 of Orentreich's classic paper entitled (Autografts in alopecia and other selected dermatologic conditions).

Psychological benefits of hair transplantation:

The permanent loss of scalp hair (baldness) is cosmetically unacceptable to many men and women. Psychologically, baldness gives rise to anxieties of aging, loss of status in our youth-oriented society, and diminished self-image. The cosmetic industry, wigmakers, hair clinics, and even some surgeons have profited from this condition by developing cosmetics, hair prostheses and techniques to revitalize scalp hair or to replace shed scalp hair (Hanke and Bergfeld, 1979).

As regards the psychological benefit, Unger (1979), mentioned that time and experience had taught us that the vast majority of patients undergoing cosmetic surgery benefit emotionally from the results and that any preexisting neurosis or emotional complexes are relieved substantially or wholly.

Indications of hair transplantation:

Orentreich in 1975, enumerated the indications of hair transplantation in the scalp:

1. Cosmetic correction of male pattern alopecia.
2. Treatment of patterned or localized diffuse adrenogenetic alopecia in women.
3. Permanent alopecia in cicatricial sites of pseudopelade, lupus erythematosus, lichen planopilaris, folliculitis, burns (thermal, chemical), radiodermatitis, traumatic avulsion.

Lewis and Resink (1979), reported that punch grafts are suitable for partial alopecia of the eyebrows which may be:

congenital, traumatic, post operative, post inflammatory or as a result of alopecia areata. But in the last condition one must wait before transplantation is undertaken because spontaneous recovery is common.

Fujita (1976), recommended the use of hair transplantation for reconstruction of eyebrow defects in lepromatous leprosy and defects in eyebrows and eyelashes after removal of pigmentary nevus.

Vallis (1967), stated that for hair transplantation the following should be taken in consideration:

1. Individuals with premature recession of the hairline are obviously the ideal ones, for the operation and ones most helped psychologically.
2. Probably the most important request for accepting a patient is the existence of a substantial amount of hair in the donor site.
3. A diseased scalp causing patchy alopecia and a scalp with seborrhoea should have an appropriate treatment before any operation is considered.
4. Vallis (1969), stated that all patients over 60 years of age wanting hair transplantation should be sent to a wigmaker or a physiatrist. Again Vallis (1980) reported that above 70 years old the operation should not be done because it is considered too old for this type of surgery.

Vallis (1971), commented that the creation of scars in both the donor and recipient areas although minimal should be explained to all patients.

Orentreich (1975), reported the various considerations for proper selection of candidates.

1. Sufficient recession of hairline or sufficient crown hair loss.
2. Adequate quantity and density of donor area.
3. Favorable qualitative comparison of donor and present frontal hair (color, graying, straightness).
4. High motivation and well considered decision based on full disclosure of benefits as well as sequelae and possible complications.
5. Willingness to accept discomfort, risk, cost and temporary cosmetic incapacitation.
6. Realistic expectations of cosmetic results.
7. Patience for multiple procedures and time for growth.
8. General emotional stability.
9. Good general health.
10. Normal wound healing (pre. and post test graft).
11. Normal coagulation time.
12. No related drug allergies.
13. No significant, active scalp disorder or general infection.

Contraindications to hair transplantation:

Vallis (1972), enumerated the contraindications to hair transplantation as follows:

1. A history of any severe systemic disease, should be a reason enough to refuse a patient. High blood pressure in an otherwise healthy individual will cause an undue

amount of bleeding during the operation and post operative bleeding with hematoma and subsequent loss of graft.

2. Patients with growth in all areas of the scalp which is thin and sparse from early childhood, because grafted hair will be also thin and sparse. Also, patients with fine, silky blond hair because the resulting growth after transplantation will be scanty.
3. Severely bald patient with insufficient hair in the donor sites often just a rim of hair around the parietal and occipital areas because it is impossible to cover the entire bald area of scalp and only scant growth of hair can be expected.
4. Patients with acute or chronic cystic acne lesions of the forehead and generally patients with any form of dermatitis should be refused until the condition has completely cleared.
5. Patients with satisfactory hairpieces are poor candidates because when it is explained to them that it is impossible to transplant hair to reduplicate the dense growth of the hairpiece, they will frequently decide against surgery.
6. Vallis (1971), mentioned that emotionally unstable patients with a history of psychiatric disturbances should be refused.
7. Vallis (1969), suggested that some women had alopecia associated with psychosomatic problems and obviously they are poor candidates.

Techniques of hair transplantation

Ayres (1964), discussed three techniques currently in use for the surgical correction of male pattern baldness:

1. Multiple punch scalp autograft technique devised and described by Orentreich in 1959.
2. Attempted implantation of synthetic (nylon filaments) stimulating hairs, into the scalp.
3. A method, advocated by plastic surgeons, involves major, multiple stage scalp grafting procedures, utilizing large, delayed pedicle flaps.

Vallis (1980), stated that there are essentially 2 major methods of supplying hair to the bald areas of the scalp:

1. Free composite hair bearing scalp graft:
 - a) punch graft.
 - o) strip graft.
2. Pedicle flaps.

Stough and Cates (1981), enumerated various procedures for hair replacement:

1. Hair pieces.
2. Synthetic fibre implants.
3. Hair weaving.
4. Punch auto grafts.
5. Male pattern reduction.
6. Transposition flaps.
7. Even he commented on medical therapy.

They stated that male pattern baldness is influenced by three factors: genetics, hormones and age. The search for pharmacologic cure has naturally focused on the second factor.

Orentreich (1978), mentioned two types of drugs thought to have the most potential for treatment of baldness. Anti-androgens which block 5- α reductase to prevent formation of dihydrotestosterone and steroids.

Large doses of oestrogens can prevent baldness in men but have many undesirable effects; acceptable doses have no therapeutic value (Stough and Cates, 1981).

Canady (1980), mentioned that various drugs such as the antihypertensive minoxidil has caused whole-body hirsutism as a side effect.

The general availability of a medically accepted agent appears quite distant. Thus, until medical control of male pattern baldness becomes a reality, punch auto-grafts and various adjunctive surgical procedures remain the only acceptable means of alleviating this and other permanent forms of alopecia (Stough and Cates, 1981).

Punch autograft is the most suitable method of hair transplantation and described by Orentreich (1975), as follows: