Study of Serum Levels of Testosterone and DHEAS in POST Adolescent Acne Vulgaris

Thesis

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List of Abbreviations

Abbreviation	*Title*

- 17-HSD ..... 17-hydroxysteroiddehydrogenase.
- 3-HSD ..... 3-hydroxysteroid dehydrogenase.
- 3ß-HSD ..... 3ß- hydroxysteroid dehydrogenase.
- ACTH..... Adrenocorticotropic hormone.
- Apo C1……..Apolipoprotein C1.
- BPO ..... Benzoyl peroxide.
- COX-2..... Cyclooxygenase-2.
- DHEAS…….. Dehydroepiandrosterone sulphate.
- DHT ..... Dihydrotestosterone.
- E2 ..... Estradiol.
- ECLIA…… Electrochemiluminescence immunoassay.
- EGF ..... Epidermal growth factor.
- HS ..... Highly significant.
- HSD ..... Hydroxysteroid dehydrogenase.
- HSPs……..Heat shock proteins.
- IGFs ..... Insulin-like growth factors.
- IL-1 ..... Interleukin-1.

· IL-6 ..... Interleukin-6.

· IL-8 ..... Interleukin-8.

· KGF ..... Keratinocyte growth factor.

· MC5R……Melanocortin-5 receptor.

· MSH ..... Melanocyte stimulating hormone.

· N…….Number.

· NS ..... Non significant.

· P. acne ..... Propionibacterium acne.

· P450sc ..... P450 side chaincleavage.

· PCO…….Poly cystic ovary.

· PPARs ..... Peroxisome Proliferator Activated Receptors.

· PSU ..... Pilosebaceous unit.

· PUVA……..Psoralen and UVA.

· RXR……Retinoid X Receptor.

· S ..... Significant.

· SD ..... Standard deviation.

· SPSS ..... Statistical program for social science.

· T ..... Testosterone.

· TLR-2..... Toll-like receptor 2.

· UVA…….Ultra violet A.

· X^2 ..... Chi-square test.

Introduction

Acne vulgaris is a common disease with prevalence up to 80% during adolescence **(Rzany and Kahl, 2006).** Acne vulgaris is the skin condition most commonly encountered by physicians, and it is estimated to affect between 40–50 million people in the United States **(Thiboutot, 2001).** There is some evidence, primarily from twin studies, to suggest that acne may be an inherited disease **(Goulden et al., 1999[1]).**

Though not life threatening, acne can have severe psychosocial consequences leading to poor self esteem, social isolation, and depression **(Koo and Smith, 1991).** Patients with acne are less successful at gaining employment **(Cunliffe, 1986).**

Acne is most prevalent during adolescence, an already difficult period of physical and psychosocial development. Improvement in acne has been associated with improvement in self-esteem. In many individuals, acne and its negative impact persist into adulthood **(Scott-Levin, 2000).**

Acne frequently begins in the prepubertal period,

when adrenal androgens released by the maturing adrenal gland lead to increased production of sebum, the lipid-rich secretion of the sebaceous glands. As the gonads mature, androgen production increases further, leading to additional sebum production than patients without acne, and the severity of acne is generally proportional to the amount of sebum production **(Federman and Kirsner, 2000).**

Acne is usually recognized as a disorder of adolescence. However, the referral of patients over the age of 25 years with acne has significantly increased over the past years. Patients with post-adolescent acne appear to represent an increasingly important population of acne sufferers **(Goulden et al., 1997).**

Post-adolescent acne can be divided into 'persistent acne', which represents a continuation of acne from adolescence into adult life, and 'late-onset' acne, which describes significant acne occurring sometimes for the first time after the age of 25 years. The reasons for persistent acne are not fully understood **(Williams and Layton, 2006).**

Aim of the work:

The present work was done to find out possible reasons of post adolescent acne vulgaris through full history taking, general and local exanimation, pelvi abdominal ultasonography for diagnosis of poly cystic ovary in females and hormonal study of serum testosterone(free and total) and dehydroepiandrosterone sulphate (DHEAS).

Sebaceous glands

Sebaceous glands are found in the skin of all mammals except whales and porpoises **(Zouboulis et al., 2008).** The human sebaceous gland is a slightly mysterious gland whose function is not fully understood. It is assumed that, in the human as in all mammals, its role is to lubricate and waterproof the formed hair, but these statements are hard to substantiate. It may even be that the role of the sebaceous gland is to secrete sebum for the particular purpose of facilitating the coordinated breakdown of the inner root sheath **(Downie et al., 2004).**

Sebaceous glands are found throughout the skin except for the palms of the hands and the soles of the feet and are associated with a hair follicle to form the pilosebaceous unit. Gland density and size vary and are greatest in the face and scalp where there may be as many as 400–900 glands/ cm^2 **(Downie et al., 2004).**

Sebaceous gland development occurs during the 13th to 16th weeks of gestation from the most outward bulges on the developing hair follicles in the human fetus **(Smith and Thiboutot, 2008).**