

PREVALENCE OF HIRSUTISM IN ADULT FEMALES IN GYNAECOLOGY OUT PATIENT CLINIC AT TIKRIT TEACHING HOSPITAL

Ayla Kh. Ghalib, F.I.C.M.S.*
Suheila Sh. Tahir, D.I.M.**

Summery:

Background: Hirsutism is a common clinical problem which causes a great distress to the patient, which true incidence is unknown. However it is more common among Mediterranean women who are usually more accepting of their condition.

Aim of study : To determine the prevalence of hirsutism among adult females attending the gynaecology out patient clinic at tikrit teaching hospital.

Patients & Methods: A sample of 175 adult non pregnant women (married & un married) with age range (18-25) years was included in this study. All attending the Gynaecology out patient clinic in Tikrit teaching Hospital from Jan-Oct. 1999. A full medical history was obtained. then patient were examined for pattern and severity of hair growth. Grading was done using Ferriman and Gallway scoring system.

Results : the prevalence of hirsutism was (35.4%), when severity of hirsutism was assessed majority of patients (77.5%) had grade I hirsutism. virilizing symptoms and signs were found in (69.3%). the family history for the same condition in the family was positive in (24.1%) of hirsute women (67.8%) of hirsute women showed one or more of sonographic features of polycystic ovarian syndrome. The Body was found to differ in hirsute women compared to normal

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Introduction

All persons have the capability of growing approximately 1000 hairs per square inch, but they are not all growing at the same time, even on a healthy human scalp there are only about 200 hairs visible in a square inch, this means that for every hair you see on the scalp there are 10 to 20 hairs underneath the scalp you can't see⁽¹⁾. Hirsutism is a common clinical problem which causes a great distress to the patient,

which true incidence is unknown, however it is more common among Mediterranean women who are usually more accepting of their condition. On the other hand hirsutism is uncommon among Asiatic women^(2,3,4). The causes of hirsutism include ovarian, adrenal, pituitary, thyroid, exogenous intake of androgens, and when no overt underlying endocrine disorder can be detected, the condition is called idiopathic hirsutism (5). Androgen affects some areas of the human body, and increase hair growth rate and also the thickness of terminal hair, once androgen has stimulated the hair follicle to produce terminal hair, its also stimulate the sebaceous gland to produce its oily sebum, which can block pores thus producing acne (4).

The ovary secrets three main androgens; testosterone (T), androstenedione (AD) and dehydroepiandrosterone (DHEA). The adrenals, liver, fat, and skin also contribute to the production of these androgens. The majority of circulating androgens are bound to a high affinity B-globulin called sex hormone binding globulin (SHBG), a further 20-25% is transported loose

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* Department of obstetrics and Gynaecology, Tikrit college of Medicine.

** Tuberculosis center, Directory of Health, Kirkuk.

liver, fat, and skin also contribute to the production of these androgens. The majority of circulating androgens are bound to a high affinity B-globulin called sex hormone binding globulin (SHBG), a further 20-25% is transported loosely bound to albumin, and about 1% circulates freely, small change in SHBG will have profound effects on free (T), if SHBG level falls, T will be liberated and free T rises. The hepatic production of SHBG is inhibited by androgen and increased by oestrogens and thyroid hormone^(6,7). Androgen excess is frequently associated with oligomenorrhoea as well as acne. Other virilizing signs may also be developed, such as alopecia, cliteromegaly, deepening of the voice, increased muscle mass, increased libido, and decrease in breast size⁽⁸⁾. Patients with mild hirsutism and regular cycles do not need extensive investigations, while patients with moderate to severe hirsutism and acne or oligomenorrhoea should have investigations, plasma level of testosterone, DHEA and 17- α -hydroxyprogesterone. The virilized woman should have her adrenals and ovaries inspected with C.T scan and or u.s^(1,4). Treatment options include cosmetic and medical therapies. Medical treatment include high oestrogen content contraceptive pills, cyproterone acetate, spironolactone and finasteride, also hirsute women should aim at keeping their BMI around 21 kg/m²^(9,10). The cosmetic or mechanical methods of hirsutism treatment are the cheapest and easiest methods and expose the patient to the fewest side effects, include wax depilatories, chemical depilatories, bleaching and electrolysis, epilation is probably the only permanent method of removing hair, however it may induce focal scars at the site of removal⁽¹¹⁾.

Aim of the study:-

The present study is carried out to determine the prevalence of hirsutism among adult females in gynaecology out patient clinic at Tikrit teaching hospital.

Material and Methods: -

Hirsutism is defined as an excess of terminal hair growth in women in a pattern more typical to men. Androgen dependant growth areas affected include the upper cheeks, chin, the central chest, the breast, and the lower abdomen and groins^(2,3).

This study was carried out in Gynaecology out patient clinic in Tikrit teaching hospital covered the period from January to October 1999. It included 175 adult non pregnant women, their age range between 18-25 years (married & unmarried females), presented with infertility, menstrual irregularities, increase in body hair

growth. A full medical history was obtained, then the patients were examined for pattern and severity of hair growth, grading was done using Ferriman & Gallway a scoring system (several scoring

systems are available, the most clinically useful being that of Ferriman and Gallway which uses a score of 0-4 for each area of the body)⁽¹²⁾. The patients were also examined for associated presence of acne, androgenic alopecia, deepening of the voice, increased muscle bulk, clitoral enlargement, breast atrophy, neck examination for goitre, abdominal examination for striae distensae, and for pelvic abdominal mass, checking of weight and blood pressure was performed for all the patients. Abdominal and/or vaginal ultrasonography was performed to detect sonographic features of polycystic ovarian syndrome⁽¹³⁾.

Results:

The prevalence of hirsutism in adult females in Tikrit hospital during the period from January to October 1999 was (35.4 %). as shown in (figure 1). When grading of severity of hirsutism was performed according to the scoring system (Ferriman and Gallway), it was found that (77.5 %) of patients had grade I hirsutism, (19.3 %) of patients had grade II hirsutism, (3.2 %) with grade III, while no patient with grade IV hirsutism (figure 2). Regarding signs and symptoms of virilization, 43 (69.3 %) out of 62 patients with hirsutism had one or more of these signs and symptoms. (41.8 %) of woman gave history of infrequent menses, while the common virilizing signs in patients during physical examination were acne (62.7 %), increased sebum production (55.8 %), decreased in breast size (23.2 %), malodorous perspiration (18.6 %), deepening of the voice (9.3 %) frontotemporal balding (2.3 %) and increased muscle mass (2.3 %). Family history for the same condition in the family was positive in (24.1%) of patients, while (75.9%) of patients had no such history (figure 3). When drug history was taken from the patients, regarding the previous administration of drugs which cause hirsutism such as androgens, diazoxide, glucocorticoids, contraceptive pills, phenytoin, and streptomycin, (30.7%) of patients gave positive history of such drugs intake (Figure 4). Abdominal and/or vaginal ultrasound was done for 62 patients with hirsutism to detect sonographic features of polycystic ovarian syndrome, (67.8 %) of patients had one or more of the sonographic features, while no abnormal features were detected in (32.2%)(Figure 5). The body mass index of patients with hirsutism in kg /m² = 28.37, while the mean body mass index of normal women = 23.44.

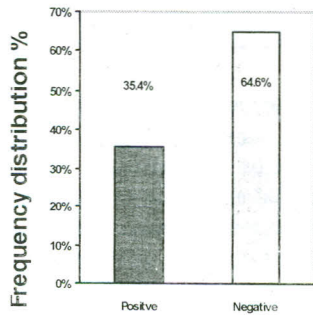


Figure 1: The prevalence of hirsutism in adult females in Tikrit governorate

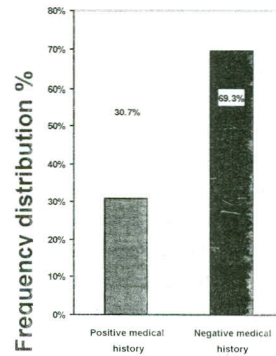


Figure 4: Distribution of hirsute patients according to Previous drugs intake

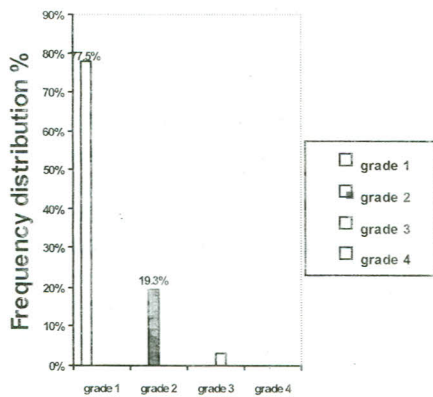


Figure 2: The grading of hirsutism in adult females.

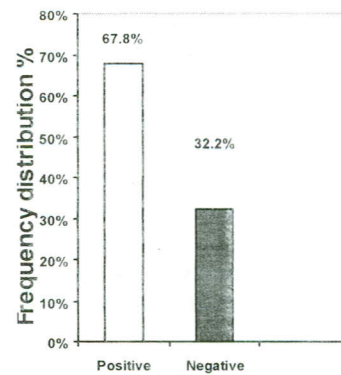


Figure 5: Distribution of features of polycystic ovarian syndrome by u.s in hirsute females .

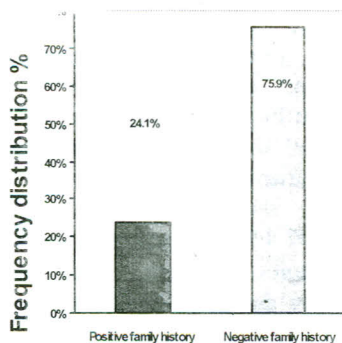


Figure 3: Distribution of patients with hirsutism according to the family history.

DISCUSSION

Hirsute women have a number of metabolic and systemic abnormalities, which suggest that hirsutism is not only a cosmetic disability but may have more serious prognosis, hirsute women have body shapes that tend towards the male form and with this, they have altered lipid profiles that would suggest an increased risk of cardio vascular disease⁽¹⁴⁾. In our study, the prevalence of hirsutism in adult females in gynaecology out patient clinic at Tikrit teaching hospital during the period of study was (35.4%). The majority of them (77.5%) had only grade 1 hirsutism, This can be attributed to that the problem of hirsutism is a result of normal hormonal changes in the body which cause increased activity of the follicles, thus altering fine hair growth to a visible distressing superfluous hair problem, the fine downy hairs of the facial area seem especially sensitive to these minute hormonal changes, the stages of life when hormonal activity increases, or alters, such as puberty , pregnancy and menopause, are the most susceptible for hair growth problem^(2,15). Regarding the family history

(24.1%) of patients gave positive family history of hirsutism, this tendency to familial clustering in hirsutism might have been anticipated, as some of the underlying disorders which result in hyperandrogenism might have a familial basis, for example congenital adrenal hyperplasia is linked to minor histocompatibility complex, a very strong family relationship has been reported in the polycystic ovary syndrome, it's also important to remember that some girls will have a constitutional basis for their hirsutism and familial body patterns should be born in mind when considering whether or not a young patient does in fact have hirsutism⁽¹⁶⁾. The body mass index of patients with hirsutism was higher than normal women, this may be due to that since obesity is associated with higher than normal levels of insulin, and the insulin may have an important role in the pathogenesis of hyperandrogenism, studies in vitro demonstrated that insulin exerts stimulatory effect on ovarian androgen production and it inhibits the synthesis of SHBG by the liver, thus increasing the level of free testosterone in the blood, the weight loss by obese hirsute women with menstrual irregularities may result in regulation of menstruation and a reduction in the body hair growth^(17,18). Out of 62 patients with hirsutism 43(69.3 %) had signs and symptoms of virilization such as oligomenorrhea in (41.8 %) of patients, acne in (62.7 %) and increased sebum production in (55.8 %) in addition to other virilizing signs, and when ultrasound examination was performed for patients with hirsutism (whether they have regular or irregular menses), (67.8 %) of patients had one or more sonographic features of polycystic ovarian syndrome. Ultrasound can be used to diagnose PCO and has a high concordance with a surgical diagnosis and biochemical evidence of hyperandrogenism or elevation of LH levels. About 85 % of women with oligomenorrhea and hirsutism have PCO on ultrasonography, As many as 23 % of normal women may have asymptomatic PCO (19). In polycystic ovarian syndrome, there is elevation of fasting insulin, testosterone and androstenedione and reduced concentration of SHBG, a rising serum concentration of testosterone was associated with an increased risk of hirsutism, infertility and cycle disturbance. Also high level of free androgen stimulates peripheral androgen receptors, resulting in an increase in 5 alpha reductase activity directly increasing the conversion of testosterone to a more potent metabolite dihydrotestosterone (8,20).

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