

Lipid Profile and Liver Enzymes in Patients with Acne

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Abstract— Acne Vulgaris is a widespread chronic inflammatory problem. A treatment for acne is Isotretinoin which is effective on all leading factors of acne. This drug may have side effects. Liver aminotransferases and serum lipids elevation are main important side effects. In this study 40 men and women with severe acne under treatment by Isotretinoin were studied . Before treatment at the beginning and also in first, second and third months after treatment, TG (triglyceride), CHOL (cholesterol), LDL, HDL, SGOT(AST), and SGPT(ALT) were assayed. According to the result of our study, we can simply prescribe this drug for all young patients and there is no need to repeat.

Index Terms— Lipid profile, Liver enzymes, Acne.

I. INTRODUCTION

Acne Vulgaris and acne pimples are grown generally on oily parts of skin that have many index nodes.[1] Acne vulgaris is a multifactorial dermatosis which occurs most often during puberty . Its pathogenesis is very complex and can be caused by many factors.[2] There is a huge variety of clinical acne some polymorphism lesions appear In 40% of seventeen years old girls and in 25% of eighteen years old boys acne shows itself and most of the times ac sebaceous glands ne continue until 25 years old. Studies showed that active glands are the necessary condition of appearing acne also is cornification of sebaceous glands duct , Bacteria colonization and inflammatory in pathogenesis.[3] Isotretinoin (Accutane) is the most popular cure for acne but its side effects on liver and blood and some effects like Teratogenicity ,depression, visual effects, cutaneous and mucousal problems.[4],[5]

II. MATERIAL AND METHODS

In this clinical trial study 40 men and women diagnosed with acne vulgaris were investigated. The level of TG, CHOL, LDL, HDL, ALT and AST were measured before and after treatment with Isotretinoin.

III. RESULTS

In 3 patients (2men and 1 woman in ages of 20-24 years old) serum TG level increased significantly in 7/5% of patients

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that these numbers in second month was decreased to 1 patient and in third month increased again to 3 patients. by using analyses of variance test it concluded there is no association between using tretinoin medicine and level of TG serum so in our study the drug didn't increase TG level. Cholesterol level increased before treatment in 38 patients (95%) and in 2 patients (5%) one month after treatment. This number increased to 8 patients (5 women 3 men). By using analyses of variance test , there was no association between using Tretinoin and serum level of CHOL .

Serum level of HDL before treatment in 38 patients(95%) was in moderate risk. Our findings show that there was no significant association between drug and decreased serum HDL level.

Serum LDL level was studied before treatment and was normal in 39 person (97/5). Our findings showed that in first and second months after starting treatment there was no significant association between drug and serum LDL level but in third month serum LDL level significantly increased. Serum levels of ALT(SGPT) and AST(SGOT) was normal in 37 patints (92/5%) before treatment. Our findings showed that there was no connection between using tretinoin and level of liver enzymes.

IV. DISCUSSION

Relaying to reports about side effects of Tretinoin [7][8], in patients with acne vulgaris the drug may increase serum levels of lipid profile and liver enzymes or may have no significant side effect [9]. A research in Tonekabon city (Iran) has reported that this drug can't increase TG , CHOL ,AST and ALT but can decrease HDL and increase LDL.[10] The studies also show that Tretinoin increases serum TG level. [9] According to reports, serum HDL level decreases after treatment with tretinoin. [11] According to Cortes researches in 2003 some of patients had hyperlipidemia and family history of hyperlipidemia but there were no relation between hyperlipidemia and increasing of lipid profiles.[12] Based on a research in 1984 by Marsden.JR , there was increased LDL, decreased HDL and also increased ALP and AST following tretinoin treatment. [13]. However, a report shows that lipid profile and liver enzymes both increased following tretinoin treatment. [14] Finally because of epidemiology and importance of acne [15][16], we needed more patients as sample for our study but because of some limitations we had only 40 samples.

V. CONCLUSION

We have shown that high doses of tretinoin has increased LDL and decreased HDL and no effect on TG,CHOL,AST,ALT in patients.

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