

Effect of Isotretinoin on Mood Status and Psychological Changes Among Female Saudi Patients Between Twenty and Twenty Five Years Old, Diagnosed with Acne Vulgaris in Makkah, 2013

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ABSTRACT

Introduction: Isotretinoin (trade names Roaccutane and Oratane) is a vitamin A derivative. It has been approved for the treatment for nodular and cystic acne and there is an association between the drug and mood and psychological disturbance.

Methodology: A cross sectional study was done among a random sample of seventy Saudi female patients. Their ages ranged from twenty to twenty five year old. Their body weight ranged from 50 to 65 kg. All of them were previously healthy, no history of psychotic disorders or medications, and no family history of psychotic problem. They were diagnosed with Severe Acne vulgaris. The questioners were distributed among them and additionally, verbal filling of some questioners were done.

Results: Fifty-seven (81.4) cases developed rapid changing mood after taking the drug, 31(44.2%) cases noticed sudden boots of crying with no reason, 39 (55.7%) cases become anxious, 52 (74.2%) cases start feeling depressed after the drug taking, 17 (24.2%) cases noticed new onset sleep disturbance, 6 (8.5 %) cases recorded that the drug has negative effect on education and learning, 2 (2.8%) cases sought medical help for antidepressant medications, and one

(1.4%) case had thinking of suicide idea but no cases attempt to suicide after the drug.

Conclusion: Isotretinoin has an observational subjective negative effect on mood and psychological state of a normal health individual. These effects correlated with the duration of the drug taking.

Keywords: Isotretinoin, Acne Vulgaris, Mood, Psychology.

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INTRODUCTION

Isotretinoin (trade names Roaccutane and Oratane) or 13-cis-retenein acid is a vitamin A derivative, since its introduction in 1982, it has been approved for the treatment for nodular and cystic acne; a sever scarring form acne usually refractory to conventional therapies.¹⁻³

Although a possible association between Isotretinoin and depression has been known for at least 15 years, it has received scant attention in the psychiatric literature and is not well recognized by psychiatrists.⁴

Assuming equivalence in the reporting of depressive symptoms among patients receiving Isotretinoin, the incidence of depression, and suicide among patients receiving Isotretinoin should be greater than that reported in the general population.⁵⁻⁷ Depression should be measured using established standard rating scales or diagnostic schedules with known psychometric properties, so that

the criteria used to establish depression are clear and reliable.⁸⁻¹⁰ It is important to clearly establish that the risk of depression is greater in Isotretinoin users as opposed to non-users or that there are unique subsets of Isotretinoin users at increased risk of depression.

The population affected by acne includes mostly adolescents and young adults. This can be a turbulent stage in the life cycle and the symptoms of depression may be masked by aggression or disruptive behavior.¹¹

If the impact of drug-induced depression is to be assessed, it is important to examine the incidence and prevalence of depression in patients with acne. Acne has a profound psychosocial legacy. In this cross sectional study we are focusing on the effect of the (Isotretinoin acid) drug on mood status and other new onset psychological disturbances.

MATERIALS AND METHODS

A cross sectional study was done included a randomly selected seventy Saudi female patients through a simple random technique among those attending the dermatology clinics, National Guard hospital, Jeddah, Saudi Arabia.

Their age ranged from twenty to twenty five years. Their body weight ranged from 50 to 65 kg. All of them were previously healthy with no history of psychotic disorders or medications. No family history of psychotic problem. They were diagnosed with severe Acne vulgaris by dermatologists. Self-administered

questioners were distributed among them in addition to some verbal questioners.

Selected patients were on Roaccutane (Isotretinoin acid) prescription for 6 months in a dose of 40 mg per day, divided to two doses 20 mg at the morning after breakfast and 20 mg at the evening after dinner and followed every month by their dermatologist for assessing the liver enzymes, renal enzymes, and lipid profile.

SPSS data statistical programme, version 22 was used to match and analyze the study data.

Table 1: Baseline characteristics of the participants (n=70)

		n	%
Age (years)	20-21	14	20.0
	22-23	45	64.3
	24-25	11	15.7
Body weight in Kilogram (KG)	50-55	11	15.7
	56-60	52	74.3
	61-65	7	10.0
Duration of Roaccutane intake (months)	2	7	10.0
	3	11	15.7
	4-5	20	28.6
	6	32	45.7

Table 2: Association between rapid change of mood and duration of Roaccutane intake.

Rapid change of mood	Duration of Roaccutane intake in months			
	2	3	4-5	6
	N=7 [N (%)]	N=11 [N (%)]	N=20 [N (%)]	N=32 [N (%)]
Yes (n=57)	3 (42.8)	6 (54.5)	17 (85.0)	31 (96.9)
No (n=13)	4 (57.2)	5 (45.5)	3 (15.0)	1 (3.1)

$\chi^2=17.4$, df=3, p=0.001

Table 3: Association between sudden boots of crying and duration of Roaccutane intake.

Sudden boots of crying	Duration of Roaccutane intake in months			
	2	3	4-5	6
	N=7 [N (%)]	N=11 [N (%)]	N=20 [N (%)]	N=32 [N (%)]
Yes (n=31)	0 (0.0)	2 (18.2)	4 (20.0)	25 (78.1)
No (n=39)	7 (100)	9 (81.8)	16 (80.0)	7 (21.9)

$\chi^2=28.2$, df=3, p<0.001

Table 4: Association between depression and duration of Roaccutane intake.

Depression	Duration of Roaccutane intake in months			
	2	3	4-5	6
	N=7 [N (%)]	N=11 [N (%)]	N=20 [N (%)]	N=32 [N (%)]
Yes (n=52)	3 (42.9)	8 (72.7)	16 (80.0)	25 (78.1)
No (n=18)	4 (57.1)	3 (27.3)	4 (20.0)	7 (21.9)

$\chi^2=4.22$, df=3, p=0.238

Table 4: Association between anxiety and duration of Roaccutane intake.

Anxiety	Duration of Roaccutane intake in months			
	2	3	4-5	6
	N=7 [N (%)]	N=11 [N (%)]	N=20 [N (%)]	N=32 [N (%)]
Yes (n=39)	2 (28.6)	6 (54.5)	4 (20.0)	27 (84.4)
No (n=31)	5 (71.4)	5 (45.5)	16 (80.0)	5 (15.6)

$\chi^2=23.1$, df=3, p<0.001

RESULTS

A total of 70 previously healthy female patients currently treated with Isotretinoin treatment for 6 months course for acne vulgaris were included in the study. Almost two-thirds of them (64.3%) aged between 22 and 23 years. Their body weight ranged between 50 kg and 65 kg with majority of them (74.2%) weighted between 56 to 60 kg and only 10% of cases weighted between 61 to 65 kg.

The duration of the Roaccutane intake until the time of the study conduction ranged from 2 months to 6 months with 45.7% of cases have just completed the full course of 6 months (24 hour to 48 hour after the last dose). (Table 1)

Majority of patients 57 (81.4%) developed rapid changing mood after taking the drug. Table 2 shows that 96.9% of those who used Roaccutane for 6 months developed rapid change in mood compared to only 42.8% among those who used it for 2 months. The difference was statistically significant, $p=0.001$. Less than half of patients (44.3%) had sudden boots of crying during taking the drug.

Table 3 shows that 78.1% of those who used Roaccutane for 6 months had sudden boots of crying compared to none of those who used it for 2 months. The difference was statistically significant, $p<0.001$.

Depression was reported among most of the participants (74.3%). It was not significantly associated with the duration of Roaccutane intake as demonstrated in table 3.

Anxiety was reported among more than half of the participants (57.9%). Majority (84.4%) of patients who used Roaccutane for 6 months had anxiety compared to only 28.6% among those who used it for 2 months. The difference was statistically significant, $p<0.001$. (Table 4)

In addition, 17 (24.2%) cases noticed new onset sleep disturbance, 6 (8.5%) cases recorded that the drug has negative effect on education and learning, 2 (2.8%) cases sought medical help for antidepressant medications and one patient (1.4%) had thinking of suicide idea but no cases attempt to suicide after the drug.

DISCUSSION

Substance-induced mood disorders can present with many different psychiatric features, including depression, dysphoria, mania, euphoria, anxiety and irritability.⁹

Many cases were published of isotretinoin-associated depression, with 3 suicides.¹¹⁻¹⁴ However, it has been concluded from a recent published systematic review that Isotretinoin treatment for acne does not appear to be associated with an increased risk for depression. Moreover, the treatment of acne appears to ameliorate depressive symptoms.¹⁵ In the present study, depression was reported among majority of patients. It has been reported that depression usually develops 1-2 months or sometimes around 2-4 months after isotretinoin treatment. In the present study, depression was not significantly associated with duration of isotretinoin treatment. In a systematic review done by Huang and Cheng (2017)¹⁵, depression scores significantly decreased within the first 1-2 months and after 4 months and tended to decrease, however this was not statistically within 3-4 months. They reported in their review that 4 studies found increased depression scores at 3-4 months and two of them reported that scores at 6 months had decreased below baseline

despite continued treatment. Webster et al¹⁶ reported that in all acne patients who reported depression, their depression resolved without discontinuing isotretinoin. They attributed the increase in depression scores or newly reported depression cases to the persistence of acne or other side effects of isotretinoin.

In the present study, mood or psychological effect increased while increasing the duration of the drug used. The increase was significant regarding rapid change in mood, sudden boots of crying and anxiety. However, it was not significant regarding depression.

In conclusion, Isotretinoin has an observational subjective negative effect on mood and psychological state of a normal health individual. It increases the risk of depression, rapidly changing mood, anxiety, sudden boots of crying with no reason and might suicide thoughts, and these effects correlate to the duration of the drug taking, increasing the duration and increase the effects.

Therefore, as Isotretinoin has a negative effect on mood and psychological state, acne patients treated with Isotretinoin need to be followed up regularly for any onset of depression or other effect and must to be evaluated.

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