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Dermatology

A STUDY TO EVALUATE ASSOCIATION OF DEPRESSION WITH ISOTRETINOIN IN PATIENTS OF ACNE VULGARIS

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ABSTRACT **Introduction:** Isotretinoin is a drug used in the treatment of acne vulgaris. In this study we evaluate the association of depression in patients treated with isotretinoin for acne and diagnose depression using CD10 guidelines with determination of severity of depression using Hamilton Depression Rating Scale. **Methods:** 30 patients who were diagnosed as moderate to severe acne were treated with oral isotretinoin for 6 months. Using CD10 guidelines and HDRS scoring patients were evaluated for depression at 0,3 and 6 months. **Results:** All patients were found to be normal without any association with depression **Conclusion:** No conclusions can be drawn, and it seems appropriate to regularly screen all patients on isotretinoin for depressive symptoms and suicidal ideation and promptly refer them to a mental health professional if any are found.

KEYWORDS : Isotretinoin(ITT), acne, depression, Hamilton Depression Rating Scale(HDRS)

INTRODUCTION

Acne vulgaris is a chronic multifactorial disorder of the pilosebaceous unit affecting people of all age groups, but it is most common in adolescence age group. The underlying causes can be :Occlusion of pilosebaceous duct opening, Propionibacterium acnes (P. acnes) colonization, Increased sebum production, Dermal Inflammation. There are several treatments available for acne, but only isotretinoin treats all the above primary aetiological factors.

Isotretinoin (ITT) is the most effective treatment available, but serious adverse effects, including a possible association with depression and suicide, limit its use. With expanded use, reports began to emerge of neuropsychiatric side effects, including depression, suicidal thoughts, suicide, anxiety, mania, impulsivity, emotional lability, violence, aggression, and psychosis, the frequency of depressive disorders during the use of isotretinoin varies from 1% to 11%.It is associated with other significant adverse effects, the most common of which are dry mucous membranes, headache, alopecia, hypertriglyceridemia, and joint and muscle pain. ITT can, theoretically, cause changes in the CNS because it crosses the blood-brain barrier.

The HDRS (also known as the Ham-D) is the most widely used clinician-administered depression assessment scale. Original version contains 17 items (HDRS17) pertaining to symptoms of depression experienced over the past week. Severity ranges for the HAMD: no depression (0-7); mild depression (8-16); moderate depression (17-23); and severe depression (≥24).

In this study we evaluate the association of Isotretinoin with depression in patients with acne using CD10 guidelines for diagnosing depression and determine the severity of depression using Hamilton Depression Rating Scale (HDRS).

MATERIALAND METHODS

It is a prospective observational , open, single-arm study which was conducted at a tertiary care hospital. Patients with moderate to severe acne were treated with oral Isotretinoin for 6 months. Study included 30 patients who are willing to take part in the research. All the patients were aged between 18-40 years with moderate to severe acne and were put on oral Isotretinoin. For the diagnosis of depression CD10 guidelines were used and Hamilton Depression Rating Scale (HDRS) was used to determine it's severity at 0,3,6 months.

Pregnant or nursing women, patients receiving any other treatment for acne and patients with any family history or past history of psychiatric disorders were excluded from the study before the start of the study.

RESULTS

The HDRS of all the patients ranged between 0-7 which signified no depression according to CD10 guidelines.

TABLE – 1

CASES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AGE	18	22	25	19	27	30	18	26	19	32	28	24	18	30	20
SEX	M	F	F	M	M	F	F	F	M	F	F	F	M	F	F
HDRS AT BASELINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HDRS AT 3 MONTHS	0	2	2	1	3	5	4	2	1	3	1	0	0	1	3
HDRS AT 6 MONTHS	0	2	2	2	3	5	4	2	1	3	1	0	0	1	3

TABLE – 2

CASES	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
AGE	21	34	27	19	20	30	32	28	23	22	21	19	23	32	23
SEX	M	F	F	M	M	F	F	F	M	F	M	M	M	F	M
HDRS AT BASELINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HDRS AT 3 MONTHS	0	1	2	1	1	2	3	2	1	2	3	0	0	2	0
HDRS AT 6 MONTHS	0	2	2	2	1	3	0	2	1	2	3	0	0	2	0

Table 1 and 2: HDRS at 0 month(baseline),3 months and 6 months of 30 subjects

The limitations to this study were smaller sample size and the need for a longer follow-up period.

DISCUSSION

Isotretinoin can theoretically, cause changes in the CNS because it crosses the blood-brain barrier. It has been described to disrupt functions of the hippocampus, corpus striatum, and frontal cortex, particularly the orbitofrontal cortex (a region often associated with depression).Isotretinoin alters intracellular serotonin level and increased 5-HT1A receptor and serotonin reuptake transporter levels

in vitro. Thus, theoretically, isotretinoin itself might cause depressive disorders. However, the potentially increased risk of depression could be compensated by the beneficial effects of isotretinoin on patients with acne.

A study was done by Youssef Fakour et al on 98 patients with severe acne were enrolled consecutively and underwent isotretinoin therapy receiving 0.5 mg/kg/d of isotretinoin for 16 weeks. Isotretinoin effects on depression were evaluated using Beck Depression Inventory (BDI) questionnaires. The analysis of before and after treatment BDI scores showed that the mean score of BDI were increased in both male and female patients after the treatment ($p<0.05$).

Another prospective , randomized , non-controlled cohort study done by Bruno et al. in 94 patients out of which 92 completed therapy 0.75 mg/kg in group 1; 0.1–0.22 mg/kg in group 2 for 16 weeks. Minor depression reported in 11% of patients in both treatment groups.

In another study to examine the associations between acne and depressive symptoms, anxiety and suicidal behaviours, Diana Purvis et al. investigated a total of 9567 secondary school students aged 12-18 years participated in the survey. The main outcome measures were self-reported acne, depressive symptoms (Reynolds Adolescent Depression Scale > 77), anxiety (Anxiety Disorder Index from Multidimensional Anxiety Scale for Children) and self-reported suicide attempts.

Psychiatric side effects of isotretinoin particularly depression and suicidal thoughts have been well documented. Jisha M Lucca , Niphy Annie Varghese , Madhan Ramesh , Dushad Ram report a case of isotretinoin-induced manic psychosis in a young female without a family history and history of mental illness. A 20-year-old female, weighing 52 kg, preuniversity student from a rural background, visited along with her sister to the Psychiatry Department.

CONCLUSION

The results shown in some of the other studies were comparable with our study in which all of patients were found to be normal according to the HDRS at 0,3 and 6 months.

Overall, it seems some people might be at risk, particularly those with a personal or family history of mental disorder, but further studies are needed to identify those patients who would benefit from an early referral to a mental health professional when ITT is initiated. It is important that the risk factors for this side effect are known so that patients at risk may be easily identified by the dermatologist (possibly through the use of a standardized questionnaire) and referred to a psychiatric evaluation before and during treatment with ITT.

Currently, no conclusions can be drawn, and it seems appropriate to regularly screen all patients on ITT for depressive symptoms and suicidal ideation and promptly refer them to a mental health professional if any are found.

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