



## Olanzapine Induced Hyperpigmentation: A Case Report

Dr Hemanta Dutta\*<sup>1</sup>, Dr Soumik Sengupta<sup>2</sup>, Dr Rajiv Ranjan Tiwari<sup>3</sup>

\*<sup>1</sup>Senior Resident, Dept. of Psychiatry, Lokoprio Gopinath Bordoloi Regional Institute of Mental Health (LGBRIMH), Tezpur, Sonitpur, Assam, India.

<sup>2</sup>Assistant professor, Dept. of Psychiatry, Lokoprio Gopinath Bordoloi Regional Institute of Mental Health (LGBRIMH), Tezpur, Sonitpur, Assam, India.

<sup>3</sup>PG trainee (PSY), Dept. of Psychiatry, Lokoprio Gopinath Bordoloi Regional Institute of Mental Health (LGBRIMH), Tezpur, Sonitpur, Assam, India.

\*Corresponding author's E-mail: [rubulpd1984@rediffmail.com](mailto:rubulpd1984@rediffmail.com)

Accepted on: 13-01-2015; Finalized on: 28-02-2015.

### ABSTRACT

Olanzapine is the atypical antipsychotic which is broadly used as a part of psychiatric practice. Common side effects of this drug can be effortlessly managed. Hyper pigmentation like side effects is unusual with Olanzapine. Here we are demonstrating a case of Olanzapine induced hyper pigmentation.

**Keywords:** Dermatology, Hyper pigmentation, Olanzapine.

### INTRODUCTION

Olanzapine is an antipsychotic that belongs to Thienobenzodiazepine class of atypical antipsychotic and commonly used for the treatment of schizophrenia and bipolar disorder. Common side effects of Olanzapine are mainly sedation, weight gain, metabolic side effects and extra pyramidal symptoms, etc. Dermatological side effects like hyper pigmentation is not common with Olanzapine.<sup>1</sup> A study by Jhirwal et al. 2004 reported hyper pigmentation in a patient receiving Olanzapine.<sup>2</sup> In their case, slate grey pigmentation was noted over the dorsal aspects of the hands. But other parts of the bodies are uninvolved. Study reports in this regard are rare. Here we are depicting a case of Olanzapine induced hyper pigmentation in multiple areas of the body.

### CASE HISTORY

A 29 year female presented to our outpatient department with a history of fearfulness, suspiciousness, disorganized behavior, poor self care etc. for last 2 months. Past history of the patient revealed that she had similar type of illness 1 year ago. It was of episodic type and her symptoms were touching the baseline for the last 8 months before the onset of the current episode. Family history and past medical history showed no abnormality. Her mental status examination showed she had restricted affect, derailment, 3rd person auditory hallucination, impaired judgment and insight. The patient was receiving Risperidone at a dose of 8 mg, but significant response was not noticed. Considering the entire picture she was diagnosed to be a case of schizophrenia and admission was advised.

As the patient was not showing significant response to Risperidone, Olanzapine was started at a dose of 10 mg/day and titrated up to 15 mg/day. After 3 weeks of receiving Olanzapine, the patient started improving. But one strange symptom, hyper-pigmentation started to

appear. Hyper-pigmentation was grayish in color and diffuse in nature and it involved in multiple areas of her skin, specially her face, dorsal aspect of the both hands, lower posterior forearms and anterior and lower portion of the legs and feet. For the benefit of the doubt, Olanzapine was stopped. Baseline investigations, Melanocyte stimulating hormone, Adreno-corticotrophic hormones and serum ferritin were analyzed to exclude conditions like Addison's disease, Cushing disease and Hemochromatosis respectively and found to be within normal bounds. Dermatological consultation was sought and diagnosis of drug induced hyper-pigmentation was made. After 10 days of stoppage of the drug, her skin color started improving slowly. Taking into the whole scenario Olanzapine is thought to be causing the hyper-pigmentation as there was temporal association with the administration of Olanzapine. The patient was shifted to Quetiapine later on. Gradually her skin color returns to normal in a span of 3 months which was observed on subsequent follow up. Picture 1-3 have shown the hyper pigmented areas of the patient.



**Figure 1:** Picture showing hyper pigmentation over the whole face sparing the neck region



**Figure 2:** Picture showing hyper pigmented areas over the lower back of the forearms and the dorsal aspect of the hands and wrists of the both upper limbs.



**Figure 3:** Picture showing hyper pigmented areas over the lower anterior region of both legs and entire anterior aspect of the feet.

### DISCUSSION

Drug induced hyper pigmentation is a very usual phenomenon with drugs like Amiodarone, Minocyclin, Arsenic, Tricyclic antidepressants, etc.<sup>3</sup> Drug induced hyper pigmentation is contributing 20 % among the acquired hyper pigmentation.<sup>2</sup> Among the antipsychotics Chlorpromazine is well known for its skin side effects like blue, grey pigmentation and pigmentation of the conjunctiva and so forth hyper pigmentation is less reported with atypical antipsychotics.<sup>4</sup> Dermatological side effects of Olanzapine like rash, Xanthoma, Purpura are reported in various studies.<sup>5,6</sup> Our study has demonstrated a similar finding like Jhirwal et al. 2004.<sup>2</sup> They also reported grey pigmentation in the dorsal aspect of the hands of their patient. Dissimilar to their report, we

have noticed pigmented areas over diffuse areas of the body. Considering the temporal association and ruling out the other causes by proper dermatological consultation, we have come to the conclusion that in our case Olanzapine is the causative agent. Naranjo Adverse Drug Reaction probability scale was applied to quantify the degree of association between Olanzapine and hyper pigmentation and it was found to be 8.<sup>7</sup> The exact mechanism of drug induced hyper pigmentation is not known. Although proposed mechanisms are a) drug or drug metabolite deposition in the dermis and epidermis, b) enhanced melanin production with or without an increase in the number of active melanocytes, and c) drug-induced post-inflammatory changes in the skin.<sup>8</sup>

### CONCLUSION

we recommend alertness from physician's side in early detection of this type of drug induced dermatological side effects.

### REFERENCES

1. Available from: <<http://en.wikipedia.org/wiki/Olanzapine>> [Accessed on: 2<sup>nd</sup> January 2015]
2. Jhirwal OP, Parsad D, Basu D, Skin hyperpigmentation induced by olanzapine, A Novel antipsychotic agent, *Int J Dermatol*, 43, 2004, 778-9.
3. Available from: < <http://www.fpnotebook.com/DER/Pharm/Mdctn/Cs/Of/Hyprpigmtn.htm> > [Accessed on: 2<sup>nd</sup> January 2015]
4. Loganathan S, Chlorpromazine-Induced Skin Pigmentation With Short-Term Use in a Patient With Bipolar Disorder: A Case Report, *Prim Care Companion J Clin Psychiatry*, 9(4), 2007, 316–317.
5. Raz A, Bergman R, Eilam O, Yungerman T, Hayek T, A case report of olanzapine-induced hypersensitive syndrome, *Am J Med Sci.*, 321, 2001, 156-158.
6. Chang HY, Ridky TW, Kimball AB, Hughes E, Oro AE, Eruptive xanthomas associated with olanzapine use, *Arch Dermatol*, 139, 2003, 1045-8.
7. Naranjo CA, Busto U, Sellers EM, Sandor P, Ruiz I, Roberts EA, Janecek E, Domecq C, Greenblatt DJ, A method for estimating the probability of adverse drug reactions, *Clin Pharmacol Ther.*, 1981, 30, 239-45.
8. Available from: <http://emedicine.medscape.com/article/1069686-overview#a0104> [Accessed on: 2<sup>nd</sup> January 2015]

Source of Support: Nil, Conflict of Interest: None.