

**Butterfly pattern hypopigmentation with antitubercular treatment****M. C. Gupta, Niti Mittal, Meenakshi Chaudhary\***

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**ABSTRACT**

Standard short course chemotherapy is the key element of the DOTS strategy and these drugs cause different kinds of cutaneous adverse drug reactions that usually occur within 2 months of initiation of treatment in around 97% of the patients. We hereby report a case of a 16-year-old female patient who developed butterfly pattern hypopigmented rashes after 3 months of starting on category 1 antitubercular treatment (ATT). Other causes with similar picture were ruled out with additional investigations and the case was confirmed as ATT induced hypopigmented rash. WHO-UMC causality assessment showed a probable association.

**Keywords:** ATT, Hypopigmentation, Cutaneous adverse drug reaction

**INTRODUCTION**

Today, tuberculosis (TB) has turned into the most important communicable disease on the planet, with incidence of more than 8 million cases of pulmonary TB happening every year, 95% of which are in developing nations.<sup>1</sup> India, a nation with more than 1.21 billion individuals, represents 20% of the global incidence of TB, which is among the highest burden of TB.<sup>2</sup>

DOTS strategy in the form of standard short course chemotherapy is the key element of the treatment. These drugs cause many different kinds of adverse drug reactions (ADRs) and can involve any system of the body. With regards to the onset of cutaneous ADRs (CADR) in relation to the TB treatment, it has been observed that CADRs usually occur within 2 months of initiation of treatment in 97% of patients.<sup>3</sup> With regards to the extent of cutaneous ADR, majority of patients develop mild involvement (body surface area involvement <10%). A study showed that pyrazinamide is the most common offending drug (38.3%), followed by rifampicin (21.3%), isoniazid (17.0%), ethambutol (14.9%) and streptomycin

(8.5%).<sup>3</sup> The common pattern of CADRs observed include morbilliform rash (72.3%); erythema multiforme syndrome (8.5%), urticaria (8.5%) and others which include exfoliative dermatitis, lichenoid eruption, etc.<sup>3</sup>

**CASE REPORT**

This patient was a 16-year-old female who was diagnosed as a fresh case of pulmonary TB. She was sputum positive and radiologically confirmed case of TB. Both lungs were destroyed completely except for left middle lobe. She was started on category 1 antitubercular treatment (ATT), which comprised of isoniazid 300 mg, rifampicin 450 mg, pyrazinamide 1000 mg and ethambutol 600 mg. All medicines were given orally on a once daily basis. Due to associated pulmonary damage, patient frequently experienced breathlessness and was admitted for the same. At the end of 2 months, patient was diagnosed sputum negative and was continued with continuation phase of ATT. After 3 months of starting ATT, patient noticed appearance of white patches over the bridge of nose extending to either side onto cheeks which increased with time. As the site of involvement was typical of systemic lupus erythematosus



**Figure 1: Hypopigmented butterfly rash.**

(SLE) but the type of lesions were different, dermatologist's opinion was taken and it was confirmed clinically as well as on the basis of lab investigations (antinuclear antibodies, anti-ds DNA antibodies) that the lesions were not because of SLE. With time, the lesions increased in size. At the completion of treatment, patient was diagnosed sputum negative. Two weeks later, patient was hospitalized for breathlessness and could maintain oxygen saturation only with supplemental oxygen (nasal prongs). Patient was continued to be hospitalized for around 2 months during which she noticed some improvement in the skin lesions. However, after 2 months of hospitalization, patient ultimately developed cardiopulmonary arrest and died.

## DISCUSSION

This is a case of hypopigmented butterfly rash that appeared after 3 months of starting on ATT and showed some improvement when treatment was stopped. The possibility of SLE was also ruled out based on dermatologist's opinion and laboratory investigations. Hence, this appears to be a case of ATT induced cutaneous adverse reaction. Causality assessment

was carried out using WHO scale which showed a probable association.

On searching the literature, a mention was found that isoniazid may cause a drug-induced syndrome resembling SLE.<sup>4</sup> As such no case report was found mentioning such hypopigmentation with ATT.

## CONCLUSION

Though this is a non-serious adverse reaction but cosmetically it is very unacceptable, especially in a female patient of adolescent age. Hence, data regarding such adverse effects should be collected and reported so that exact incidence can be estimated.

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## REFERENCES

1. Tandon RK, Garg PK. Antituberculosis treatment induced hepatotoxicity. In: Sharma SK, Mohan A, editors. Tuberculosis. New Delhi: Jaypee Brothers; 2004: 500.
2. Bhargava A, Mismanagement of tuberculosis in India: causes, consequences and the way forward. Hypothesis. 2011;9(1):e7.1-1.
3. Tan WC, Ong CK, Lo Kang SC, Razak MA. Two years review of cutaneous adverse drug reaction from first line anti-tuberculous drugs. *Med J Malaysia.* 2007;62:143-6.
4. Brunton LL, Chabner BA, Knollmann BC. Goodman and Gillman's Pharmacological Basis of Therapeutics. 12th Edition. China: Mc Graw-Hill Companies; 2011: 1558.

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