



IJPPR

INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH
An official Publication of Human Journals

ISSN 2349-7203





Human Journals

Case Report

February 2020 Vol.:17, Issue:3

© All rights are reserved by Amala T.A et al.

Isoniazid Induced Alopecia: A Case Report

 <p>IJPPR INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH An official Publication of Human Journals</p> <p>ISSN 2349-7203</p> 
<p>Amala T.A*¹, Haris Mohamed K M², Aleena Anna John³, Sreeja P.A⁴</p> <p><i>¹Pharm-D Intern, Grace College of Pharmacy, Palakkad.</i></p> <p><i>²Clinical Pharmacist, Aster Medcity Kochi.</i></p> <p><i>³Pharm-D Intern, Grace College of Pharmacy, Palakkad</i></p> <p><i>⁴Department of Pharmacy practice, Grace College of Pharmacy, Palakkad.</i></p> <p>Submission: 23 January 2020 Accepted: 31 January 2020 Published: 29 February 2020</p>

Keywords: TB drugs, Isoniazid, Alopecia

ABSTRACT

Isoniazid in combination with other drugs is cost-effective treatment for tuberculosis. The combination of these drugs is found to be safe, simple to administer, cost-effective with high efficacy and well-tolerated, but rare side effects like polyneuropathy, hepatitis, skin rashes can occur. Alopecia can be divided into two types: Cicatricial (scarring) and noncicatricial (non-scarring). Alopecia is a common medical condition in which drug induced is also seen with many drugs mainly include neoplastic agents.



HUMAN JOURNALS

www.ijppr.humanjournals.com

INTRODUCTION

Isoniazid in combination with other drugs is cost-effective treatment for tuberculosis. The combination of these drugs is found to be safe, simple to administer, cost-effective with high efficacy and well-tolerated, but rare side effects like polyneuropathy, hepatitis, skin rashes can occur. [1,2]

Alopecia is not an uncommon medical condition, a wide range of medical conditions can cause alopecia. Drugs are one of the important cause of alopecia in which mainly includes antimitotic drugs. [3,4]

Drug-induced alopecia is usually reversible with the discontinuation of the drug. Alopecia due to antituberculosis drugs is very uncommon and reported with isoniazid, thiacetazone and ethionamide [5,6,7]. We describe a case that reported with isoniazid induced hair loss.

CASE REPORT

A 29year old male patient came to our hospital with complaints of on and off cough with sputum and chest pain and significant weight loss along with loss of appetite. On examining the sputum, the presence of *Mycobacterium tuberculosis* was present which is in the primary stage and the patient finally diagnosed to have primary tuberculosis. Treatment starts with a combination of Isoniazid 75mg + Rifampicin 150mg + Ethambutol 275mg + Pyrazinamide 400mg once daily along with folic acid supplements. After 2-3 weeks of treatment patient symptoms such as cough were found to be reduced. On examination, within 3 weeks a significant hair loss was seen and the same was reported by the patient. On analyzing the medical conditions that can cause hair loss, there were no any specific nutritional deficiencies, skin diseases etc. Routine analysis of past medications including over the counter drugs or any home remedies was checked. But did not find anyone. These all lead to check the current drug therapy. Though antitubercular drugs are the main treatment, Isoniazid induced alopecia was the main cause and proved by literature. Alopecia was treated by scalp lotion to prevent dryness along with hair loss and patients were treated symptomatically.

DISCUSSION

Alopecia can be divided into two types: Cicatricial (scarring) and noncicatricial (non-scarring). [8] In the former, a group of rare disorders (lupus erythematosus, lichen planus, graft vs host disease, scleroderma, dermatomyositis, sarcoidosis, malignancy, *etc.*) destructs the hair follicles to replace it with scar tissue and cause permanent hair loss. In non-cicatricial alopecia, the underlying cause is usually the drugs apart from androgenic alopecia. It is non-scarring type of alopecia that is reversible upon discontinuation of the offending agent. A large number of drugs can interfere with the hair cycle to produce alopecia, only a few drugs routinely cause hair loss that includes anti-mitotic agents. There are reports of drug-induced alopecia associated with anti-coagulants, anti-hyperlipidemic drugs, tricyclic antidepressants, anti-thyroid drugs, oral contraceptives, cimetidine, some antituberculosis drugs, *etc.* [7,8,9]

Alopecia occurred due to the drug is usually diffuse non scarring alopecia which is fully reversible when the suspected drug withdrawn. Drug induced alopecia occurs by two mechanisms; 1) Anagen effluvium (inducing an abrupt cessation of mitotic activity in rapidly dividing hair matrix cells) 2) Telogen effluvium (precipitating the follicles in to premature rest). [4]

Sharam *et al.* reported a case of 32 year old female who developed Lichenoid eruptions on her body followed by diffuse hair loss of anagen effluvium type when receiving antitubercular drugs include isoniazid, ethambutol, pyrazinamide and rifampicin. Isoniazid was withdrawn, however other antitubercular drugs continued. There was a complete recovery of hair loss. [11]

Gupta *et al* reported another case of isoniazid-induced alopecia in a 30-year old female observed after 2 months of stopping isoniazid. This case recorded a score of 6 (probable) on the Naranjo probability scale. [1] Fitz Gerald *et al.*[5] described isoniazid-induced alopecia in 5 Canadian-born white people in 1996 while treating 141 tuberculosis patients. Three among five cases were HIV seropositive. In all cases, the condition was reversible following isoniazid withdrawal, considering isoniazid to be the offending drug and HIV infection as a possible aggravating factor.

CONCLUSION

Alopecia is a common medical condition in which drug induced is also seen with many drugs mainly include neoplastic agents, antimetabolic agents etc. and all the drug induced alopecia is completely reversible.

Acknowledgment

We obtained permission from the person.

REFERENCES

- 1) Gupta DK, Kumar R, Kumar V, Aggarwal AK. Diffuse toxic alopecia due to thiacetazone. *Indian J Chest Dis Allied Sci.* 1983;25:74–5. [PubMed] [Google Scholar]
- 2) Gilman AG, Rall TW, Nies AS, Taylor P. *The pharmacological basis of therapeutics.* 8 th ed. Oxford: Pergamon Press;1990.p.1146-64.
- 3) Ramakanth Dixit, Danish Qureshi, Sunil Mathur. Alopecia caused by isoniazid. *Journal of pharmacology and therapeutics.* 2014,5(2)155-157.
- 4) Tosi A, Misciali C, Piraccini BM, Peluso AM, Bardazzi F. Drug-induced hair loss and hair growth. Incidence, management and avoidance. *Drug Saf.* 1994;10:310–7. [PubMed] [Google Scholar]
- 5) FitzGerald JM, Tuner MT, Dean S, Elwood RK. Alopecia-side effect of antituberculosis drugs. *Lancet.* 1996;347:472. [PubMed] [Google Scholar]
- 6) Arshad N, Jain RC, Verma K. Ethionamide induced alopecia. *Indian J Tub.* 1984;31:173–4. [Google Scholar]
- 7) Rongioletti F, Christana K. Cicatricial (scarring) alopecias: An overview of pathogenesis, classification, diagnosis, and treatment. *Am J Clin Dermatol.* 2012;13:247–60. [PubMed] [Google Scholar]
- 8) Llau ME, Viraben R, Montastruc JL. Drug-induced alopecia: Review of the literature. *Therapie.* 1995;50:145–50. [PubMed] [Google Scholar]
- 9) Lee A, Thomson J. *Adverse Drug Reactions.* 2nd ed. United Kingdom: Pharmaceutical Press; 2006. Drug-induced skin reactions; p. 147. [Google Scholar]
- 10) Tengstrand M, Star K, van Puijenbroek EP, Hill R. Alopecia in association with lamotrigine use: An analysis of individual case safety reports in a global database. *Drug Saf.* 2010;33:653–8. [PubMed] [Google Scholar]
- 11) Sharma PK, Gautam RK, Bhardwaj M, Kar HK. Isonicotinic acid hydrazide induced anagen effluvium and associated lichenoid eruption. *J Dermatol.* 2001;28:737–41. [PubMed] [Google Scholar]