Drug-associated Plica Polonica: An Unusual Presentation

Sumir Kumar, Balvinder Kaur Brar, Priya Kapoor

Department of Dermatology, Guru Gobind Singh Medical College and Hospital, Faridkot, Punjab, India

ABSTRACT

Plica polonica is an uncommon condition characterized by irreversible matting of hair on the scalp. It is usually associated with psychiatric disturbance, neglect of hair, scalp infestation, and use of ionic surfactants for shampooing. Rarely, plica polonica has been associated with drugs. We report this condition in a patient of metastatic carcinoma breast on docetaxel chemotherapy.

Key words: Chemotherapy, docetaxel, plica polonica

INTRODUCTION

Plica polonica is an uncommon condition, in which there is acquired matting, irreversible twisting, and entanglement of hair. It is also called bird's nest hair, plica neuropathica, or felted hair. It was first described by Le Page in a young girl with hysteria.[1] This condition has been reported in religious persons (Sadhus) in India who raise a plica for wish fulfillment.[2] Herein, we report the case of a female with metastatic carcinoma breast who developed plica polonica after docetaxel chemotherapy. This condition has not been previously reported with docetaxel.

CASE REPORT

A 63-year-old female, known case of metastatic carcinoma breast, presented with spontaneous matting of hair on the scalp for 2 days. She had received docetaxel chemotherapy 2 weeks before presenting to us. There was no associated pain or itching on the scalp. She had normal hair washing and combing habits. She denied a change of shampoo and had not undergone any chemical treatment of hair. Furthermore, she had not cut her hair for many years. There was no psychiatric comorbidity.

On examination, a matted mass of hair was seen in the occipital area along with noncicatricial hair loss in the middle of the scalp extending up to the vertex and in bilateral parietal areas [Figure 1]. There was no erythema, scaling, crusting, or nits. Hair pull test showed easy hair dislodgement. Dermoscopy showed entangled hair shafts. Microscopy showed anagen hair with cuticular damage [Figure 2]. All routine investigations were normal.

The patient was counseled about the irreversible nature of the matted hair and cutting of the felted hair was suggested.

DISCUSSION

Exact pathomechanisms for plica polonica are unknown. Hair neglect, frequent combing, shampooing, and parasitic

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Kumar S, Brar BK, Kapoor P. Drug-associated plica polonica: An unusual presentation. Int J Trichol 2019;11:80-1.
infestation have been implicated.\textsuperscript{3,4} It is comparable to felting in textile industries which refers to compaction of fibers subjected to friction and compression in a liquid medium.\textsuperscript{5} Overvigorous manipulation of long, curly hair and viscous fluid welding also contribute to felting.\textsuperscript{6} Electrostatic attraction between hair triggered by ionic surfactants and facilitated by rubbing increases felting. Other pathomechanisms include excessive weathering and fraying in hair which have not been cut for a long time.\textsuperscript{7} Drug-induced hair matting has been reported due to azathioprine, methotrexate, paclitaxel, and carboplatin, and in a patient of papillary cystadenoma ovary on doxorubicin, cyclophosphamide, and cisplatin.\textsuperscript{4-7}

Chemotherapeutic drugs impair or disrupt the anagen cycle causing hair follicle dystrophy.\textsuperscript{10} Immunosuppressive drugs affect hair matrix cells resulting in narrowed or defective hair shaft. Drug-induced cuticular damage may also predispose to hair matting. Thus, anagen effluvium following chemotherapy and drug-induced cuticular changes might have predisposed to hair matting in our patient. The role of lipids and melanin in hair as binding sites for drugs is not clear. Electrostatic bonding between drugs and proteins in hair or drug-induced changes in hair keratin may have some role in the pathogenesis of this condition. This case highlights a rare side effect of a commonly used chemotherapeutic drug. To the best of our knowledge, plica polonica has not been reported previously due to docetaxel.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

**REFERENCES**

1. Le Page JF. On neuropathic plica. Br Med J 1884;1:160.
2. Bhatia A, Kanish B, Chaudhary P. Plica neuropathica (polonica). A matter of Faith. Int J Sci Stud 2014;2:91-2.
3. De D, Narang T, Kanwar AJ. Frequent combing as a cause of plica neuropathica. J Eur Acad Dermatol Venereol 2007;21:1283-4.
4. Wilson CI, Ferguson DJ, Dawber RP. Matting of scalp hair during shampooing – A new look. Clin Exp Dermatol 1990;15:139-42.
5. Bogaty H, Dunlap FE. Matting of hair. Arch Dermatol 1970;101:348-51.
6. Dawber R. Matting of scalp hair due to shampooing: A hypothesis as to the cause. Clin Exp Dermatol 1984;9:209-11.
7. Anisha S, Sukhjot K, Sunil GK, Sandeep P. Bird’s nest view from a dermatologist’s eye. Int J Trichology 2016;9:669-70.
8. Gupta S, Kumar R, Vijay A, Jain SK. Plica polonica in a patient on chemotherapy: A case report with review of literature. Int J Trichology 2017;9:124-6.
9. Ramanan C, Ghorpade A. Plica neuropathica after using herbal soap. Int J Dermatol 1993;32:200-1.
10. Kanwar AJ, Narang T. Anagen effluvium. Indian J Dermatol Venereol Leprol 2013;79:604-12.