Sir,

Hairs are an important contributor to the beauty of a person and have often been subjected to harsh chemical treatments in the hope of a cosmetically better appearance. However, considering the effect that these chemicals can have on hair, we need to be careful regarding what we are subjecting our hair to. Any chemical treatment applied to the hair should be discussed beforehand with a dermatologist, preferably a cosmetologist. Plica Polonica, also known as Polish Plait or Plica Neuropathica, is a rare disorder characterized by localized or diffused matting of hair. Polish custom of wearing tight fur caps and the superstitious belief that a lousy scalp was healthy contributed to the frequency of plica Polonica in Poland. Plica Polonica clinically presents as a compact mass of scalp hair with irregular twists and irreversibly entangled plaits which are firm-to-hard impenetrable mass of keratin cemented together with dirt and exudates.

Hair shaft consists of a cortex and a protective layer of cuticle. In plica Polonica, the protective layer of cuticle is damaged and the cortex is exposed. The cortex is moist and sticky, causing the affected hair to adhere to each other as well as the normal hair.

It has been variously attributed to numerous causes, the most consistent being neglect of hair care and regular combing, psychiatric illnesses, chemical exposure, cationic detergents, scabies, and pediculosis. A rare case report has attributed the occurrence of Plica Polonica in a patient to the use of some shampoo, though not specified.

A 16-year-old girl presented to the outpatient department of Dermatology, STD and Leprosy of SMHS Hospital (Associated teaching hospital of Government Medical College Srinagar) with sudden onset matting of hair in certain regions of the scalp. The patient gave a history of application of a homeopathic antidandruff shampoo with canthalin as the active ingredient. She developed hair matting in certain areas of the scalp soon after application of the shampoo. She reported to the hospital on the same day along with the bottle of the shampoo. Repeated attempts to untangle the hair by washing and combing had failed. The patient was literate and belonged to an upper middle class family. She denied history of lice infestation and reported washing her hair daily with nonmedicated shampoos. There was no history of any chemical treatment of hair such as coloring and straightening. The patient had a history of dandruff, for which she had been advised to use the canthalin-based antidandruff shampoo. Historically, the patient did not have any associated comorbidities. There was no history of any psychiatric illness in the patient as well as her family, and the patient was not on any kind of medication. The patient had never been admitted in any hospital for any reason.

On examination, the patient had bunches of diffusely matted and tangled hair which had a rough texture [Figure 1], but no nits or lice were seen. The overall appearance of hair was clean and the patient had satisfactory hygiene practices overall. There was no evidence of pediculosis capitis or any other primary scalp or hair disorder. On potassium hydroxide examination, no fungal hyphae were seen. There was no cervical or occipital lymphadenopathy.

The patient was not subjected to any tests or laboratory investigations. She was advised to cut the plicated mass of hair as there was no other effective treatment available for her condition.

The term “Plica neuropathica” was first used by Le Page in 1884 to describe a case of sudden onset entangled hair in a 17-year-old girl with hysteria. Plica Polonica has been variously attributed to conditions such as psychiatric illnesses, pediculosis, and scalp pyodermas. However, in this case, the patient did not have any underlying condition which could have led to the development of Plica Polonica. The 16 years of her life had been rather uneventful in terms of medical history. The girl had decent standards of hygiene. Plica Polonica in psychiatric patients has been attributed to vigorous rubbing of the hair. However, there was no such historical evidence.

Bogaty and Dunlap described reports of matting and tangling of hair with unknown etiology. They ascribed this phenomenon to felting, a physical compaction seen in most animal fibres due to unique mechanical and frictional properties of these fibres. They experimentally enhanced the felting of hair by mechanical action, treatment with bleaching, and waving solutions.

Figure 1: Diffuse matting of hair
Our case is similar to a case reported in a 12-year-old girl who developed Plica Polonica following the use of some shampoo, which was not otherwise specified in the report.[5] Treatment of this condition is cutting the affected hair. On one occasion, a patient separated the tangled mass using a knitting needle and the lubricated the hair with olive oil.[8] The early stages are probably reversible and manual separation using organic solvents can be tried by advising the patient to avoid rotatory rubbing, regularly trimming the hairs, and avoiding trigger factors, as mentioned earlier. Further risk of matting can be reduced by hair care measures such as regular cleaning of hair with mild cleansers or shampoo, gentle oiling, and combing to avoid entangling and regular hair trimming.

This is possibly only the second case of Plica Polonica ascribed to the use of shampoos in the literature. The use of harsh detergents and chemicals has been mentioned as a cause of Plica Polonica in the literature. We found this case interesting and worth reporting as there are very few direct reports relating the use of shampoos to Plica Polonica.

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.

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Conflicts of interest

There are no conflicts of interest.

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