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Rhynchostylis retusa (L.) Blume: A potential plant to cure paralysis

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Abstract

Paralysis is a complete loss of muscle function in one or more muscle groups, where the paralyzed person may lose both sensory and motor function in the affected area. It is a common disorder and can arise from multiple causes including strokes and injuries. Treatment of paralysis can involve both time and substantial expenditures, which are beyond the means of most people in Bangladesh. We describe here a plant, *Rhynchostylis retusa* (L.) Blume (Orchidaceae family) known in English as Foxtail Orchid, used by a folk medicinal practitioner (FMP) of Naogaon district, Bangladesh to treat paralysis arising from any causes. Comparative ethnomedicinal uses of this plant and possible validation for the use of the plant in paralysis treatment are also discussed.

Keywords: Phytotherapy, folk medicinal practitioner, Naogaon, Bangladesh, *Rhynchostylis retusa*

Introduction

Paralysis is a disorder where loss of sensory and motor function as a result of injury or stroke can lead to numbness or inability to move the affected area. This numbness can be restricted to a single part of the body or can be whole body paralysis. For instance facial paralysis is confined to face and can be due to facial nerve injury. Such paralysis can be reversed following clinical or physical therapies for a somewhat lengthy time period, or can be irreversible^[1]. Autoimmune disorders like Guillain-Barre syndrome can result in paralysis and there has been report of high incidence of this syndrome in Bangladesh children^[2]. The time and expenditures connected to treatment of paralysis can prove to be of serious financial concerns to members of a paralyzed person's family. To this fact may be added the point that treatment for paralysis is virtually not available to the rural areas and even the small to medium urban areas of a country like Bangladesh. As a result, paralyzed persons or their relatives resort to folk medicinal practitioners (FMPs) or tribal medicinal practitioners (TMPs) for treatment of paralysis^[3-6]. It is to be noted that FMPs or TMPs mainly use various medicinal plants for treatment of diseases. In this survey report, we describe and discuss the use of an Orchidaceae family plant, namely *Rhynchostylis retusa* (L.) Blume. The plant was used by a FMP in Naogaon district of Bangladesh for paralysis treatment.

Materials and Methods

Information about the therapeutic use of the plant, *Rhynchostylis retusa* (Fig 1) was obtained from a FMP, Sreedam Chandra Prang, 55 years, male, practicing for 27 years, Shinga village, Naogaon district, Bangladesh. The FMP gave the phytotherapeutic information following requests made by the interviewers (authors) and took the authors to show the plant. Plant specimen was photographed and collected from the spot, pressed, dried and brought back to Bangladesh National Herbarium at Dhaka for identification. Voucher specimens were also deposited with the Medicinal Plant Collection Wing of the University of Development Alternative. The plant was given an Accession Number of 45377 by the Bangladesh National Herbarium.

Results and Discussion

As per the FMP, new or fresh leaves were collected and made into a paste with old ghee (clarified butter). The ghee has to be 50-70 years old or older. Paste was to be rubbed on the paralyzed area daily.

If no improvements are noticed within a few days, then fresh leaves of *Rhynchosytilis retusa* were to be mixed with roots of *Datura metel* L. (Solanaceae) and 12-13 fruits of *Piper nigrum* L. (Piperaceae). A paste of the mixture was to be massaged on the paralyzed area 1-2 times daily for 5-7 days. The FMP claimed that marked improvements can be seen within this time period and the massaging continued till full cure.

A survey was made in the ethnomedicinal literature to find out ethnic uses of *Rhynchosytilis retusa*. The Marma, Tonchongya and Bengali communities settled in Cox's Bazaar and other districts of the Chittagong Hill Tracts region in Bangladesh use leaves, pseudobulbs and whole plants for treatment of paralysis, rheumatism, piles, menstrual disorders, fractures, fever, allergy and inflammation [7]. The Dongaria Kandha tribe of southwest Orissa, India, takes 3-4g of root of *Rhynchosytilis retusa* and makes them into a paste with 2g of fresh leaf buds of *Pisum sativum*. One gram of the paste is taken with water orally on an empty stomach twice a day for seven days to cure blood dysentery. The plant is also used as an emollient and leaf paste applied topically to cure wounds [8]. The plant is used to treat cough and cold in the Eastern Ghats region of India [9].

Leaf and flower paste of the plant are used to treat bone fractures in animals by indigenous people of Hamirpur District, Himachal Pradesh, India [10]. In Kurigram district of Bangladesh, FMPs use leaf juice for rheumatic pain and ear ache [11]. Whole plant is used as an emollient by people of Hassan district, Karnataka, India [12]. Leaf, stem and root are used to treat rheumatism in Assam, India [13]. People of Mandi district, Himachal Pradesh, India, use decoction of leaves for asthma [14].



Fig 1: *Rhynchosytilis retusa* (L.) Blume

The ethnomedicinal data suggests that apart from Bangladesh, there are no uses of the plant elsewhere to treat paralysis. Thus the use of the plant in Bangladesh is novel and merits scientific attention towards a potential cure for paralysis. The use of *Datura metel* in the present case is unknown and needs further scientific research for validation of its use. *Piper nigrum* contains piperine, which is known to inhibit drug-metabolizing enzymes [15], and so can presumably be useful in prolonging activity of any paralysis curing activity of *Rhynchosytilis retusa* bioactive constituents.

References

1. Batista KT. Facial paralysis: epidemiological analysis in a rehabilitation hospital. *Rev Bras Cir Plást.* 2011; 26(4):591-595.
2. Islam Z, Jacobs BC, Islam MB, Mohammad QD, Diorditsa S, Endtz HP. High incidence of Guillain-Barre syndrome in children, Bangladesh. *Emerg Infect Dis.* 2011; 17(7):1317-1318.
3. Rahmatullah M, Mollik AH, Rahman S, Hasan N, Agarwala B, Jahan R. A medicinal plant study of the Santal tribe in Rangpur district, Bangladesh. *J Altern Complement Med.* 2010; 16(4):419-425.
4. Rahmatullah M, Hasan A, Parvin W, Moniruzzaman M, Khatun A, Khatun Z *et al.* Medicinal plants and formulations used by the Soren clan of the Santal tribe in Rajshahi district, Bangladesh for treatment of various ailments. *Afr J Tradit Complement Altern Med.* 2012; 9(3):350-359.
5. Das PR, Islam MT, Mostafa MN, Rahmatullah M. Ethnomedicinal plants of the Bauri tribal community of Moulvibazar District, Bangladesh. *Anc Sci Life.* 2013; 32(3):144-149.
6. Kabir MH, Hasan N, Rahman MM, Rahman MA, Khan JA, Hoque NT *et al.* A survey of medicinal plants used by the Deb barma clan of the Tripura tribe of Moulvibazar district, Bangladesh. *J Ethnobiol Ethnomed.* 2014; 10:19.
7. Akhter M, Hoque MM, Rahman M, Huda MK. Ethnomedicinal investigation of some orchids used by five communities of Cox's Bazar and Chittagong hill tracts districts of Bangladesh. *J Med Plants Stud.* 2017; 5:265-268.
8. Dash PK, Sahoo S, Bal S. Ethnobotanical studies on orchids of Niyamgiri Hill Ranges, Orissa, India. *Ethnobot Leaflets.* 2008; 12:70-78.
9. Sivaraj N, Pandravada SR, Venkateswaran K, Dikshit N. Ethnic medicinal plant wealth of Eastern Ghats: Status, knowledge systems and conservation strategies. *Int J Curr Res Biosci Plant Biol.* 2017; 4:83-101.
10. Bhatti RC, Nirmala C, Kaur A, Singh S, Kumar P, Kaur R *et al.* Harnessing of local plant species by indigenous people of Hamirpur district for ethno-veterinary purposes. *Ann Plant Sci.* 2017; 6:1898-1925.
11. Das PR, Islam MT, Mahmud ASMSB, Kabir MH, Hasan ME, Khatun Z *et al.* An ethnomedicinal survey conducted among the folk medicinal practitioners of three villages in Kurigram district, Bangladesh. *Am.-Eur J Sustain Agric.* 2012; 6:85-96.
12. Kumar GMP, Shiddamallayya N. Survey of wild medicinal plants of Hassan district, Karnataka. *J Med Plants Stud.* 2016; 4:91-102.
13. Mehmud S, Swarnakar A. A review on ethno medicinal plants for joint diseases from Assam, India. *Int J Pharm Sci Res.* 2017; 2:39-46.
14. Kumar S. Ethnobotanical uses of some medicinal plants of District Mandi, Himachal Pradesh (India). *J Biol Chem Chron.* 2015; 2:34-37.
15. Bhardwaj RK, Glaeser H, Becquemont L, Klotz U, Gupta SK, Fromm MF. Piperine, a major constituent of black pepper, inhibits human P-glycoprotein and CYP3A4. *J Pharmacol Exp Ther.* 2002; 302:645-650.