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BEIGN INTRACRANIAL HYPERTENSION WITH LEVAMISOLE: AN UNKNOWN ENTITY.

Sarkar Somenath MD[1], Sarkar Tanusree MD[2] and Das Dipankar MD[3]

[1]Associate Professor (Dermatology), B.S Medical College, Bankura, India.
[2]Assistant Professor (Dermatology), Burdwan Medical College, Burdwan, India.
[3]Assistant Professor (General Medicine), B.S Medical College, Bankura, India.

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***Corresponding Author**
Dr. Somenath Sarkar
Associate Professor (Dermatology), B.S Medical College, Bankura, India.

ABSTRACT

Benign intracranial hypertension (BIH) is a rare neurological disorder characterized by increased intracranial pressure in absence of any tumour or any disease. It is mostly due to impairment of absorbtion of cerebro spinal fluide from arachnoid granulation. Clinically BIH presents with nausea, vomiting, headache, diplopia etc. ophthalmological examination shows papillaedema which may lead to blindness if not indentified and treated at its early stage. Female in child bearing age group, some endocrinal abnormalities and certain drugs may precipitate the reaction. The occurrence of BIH in relation with levamisole was not reported in pubmed database. Here we report a case where sign and symptoms of BIH appeared in a 22 year old male, after the initiation of levamisole. There was a significant temporal of BIH and levamisole in our case and according to naranjo scale of causality of adverse drug reaction, the association of BIH with levamisole was probable.

KEYWORDS: Levamisole, Benign intracranial hypertension, Naranjo scale.

INTRODUCTION

Pseudotumour cerebri (PTC) or benign intracranial hypertension (BIH) is a rare neurological disorder characterized by increased intracranial pressure in absence of any space occupying lesion or other disease. The condition occurs more often in woman than man. The majority of the patients are obese women of child bearing age group.[1] It is rare in infant but occur in

children. The etiology of BIH is poorly understood. Current hypothesis include resistance in the transverse sinus to absorb cerebrospinal fluid (CSF) at the arachanoid villi (granulation) leads to increase intracranial pressure.[2, 3] The risk factors for developing BIH are female of reproductive age group, obesity, menstrual irregularities, recent weight gain, and iron deficiency anaemia. Chronic renal failure, Cushing syndrome [4], hypoparathyroidism may be associated with BIH. Several drugs have been reported to cause BIH, including minocycline, tetracycline, trimethoprim-sulfamethoxazole, nitrofurantoin, tamoxifen, lithium[5], isotrenoin[6], cemetidin, corticosteroid and vit A[3] etc.

However, there was no case report of BIH due to levamisole intake on thorough Pubmed search. Here we report a case of BIH developing in a 22 year old man who was wrongly taken daily dose of levamisole for treatment of vitiligo.

CASE REPORT

A 22 years old Youngman presented to Dermatology OPD of School of Tropical Medicine of Kolkata with vitiligo vulgaris in different parts of his body, which was not responding to conventional therapy (like topical corticosteroid, systemic PUVA sol etc.). The disease was spreading in nature. The patient was advised oral levamisole (150 mg) on two consecutive days in a week for 6 weeks. After one week patient attend dermatology OPD with vomiting, headache, blurring of vision, double vision and watering from eye which is present for last 3 day. Patient tried antiemetics and analgesics without any benefit. On enquiry patient gave history that he was mistakenly took levamisole daily. There was no fever neck rigidity or focal neurological deficit. Patient was admitted and immediately sends for ophthalmological checkup which revealed papilledema. His all routine investigation including complete haemogram , liver function test, renal function test, chest x-ray, routine urine examination were within normal limit. CSF examination revealed no abnormality. CT scan showed no organic defect. Due to lack of logistic support measurement of CSF pressure could not be done. Based on history, clinical feature and laboratory investigation BIH was diagnosed. Neurological consultation was taken and patient was put on oral acetazolamide and intravenous mannitol therapy. Within 7 days all the symptoms went. Repeat ophthalmological checkup showed disappearance of papilledema. On administration of the plecebo no such symptom appeared. On readministration of the drugs for consecutive five days, the symptoms like headache, vomiting, double vision reappeared. Ophthalmological checkup again revealed oedema of the optic disc.

DISCUSSION

Levamisole is a synthetic imidazole derivative. It is mainly used as an anthelmintic and immunomodulator. It stimulates the ganglion in the warm cause tonic paralysis which results in expulsion of live warm. It can also restore depressed T-cell function and there by act as an immunomodulator in different condition. It has been used as an adjunct to the chemotherapy for melanoma, head neck cancer and colon cancer. It is an effective inducer of interferon and used in combination therapy of influenza.[7] It is also used in childhood nephritic syndrome[8] and as mood elevator. Now a days in tropical country like India levamisole have been increasingly used in the field of dermatology as an immunomodulator in different condition like vitiligo[9], lichen planus, wart and aphthous ulcer etc.[10] It has some serious adverse effect like agranulocytosis, severe depletion of white blood cell count etc. for these reason the drug was withdrawn from US and Canada market in 2000. Recently it was used as an adulterant in cocaine sold in US and Canada resulting in serious side effect. Other adverse effects described with levamisole are nausea, abdominal pain, giddiness, fatigue and drowsiness etc.

Benign intracranial hypertension is a neurological disorder characterized by elevated intracranial pressure in absence of any disease or tumor. It is mostly due to disordered absorption of CSF in arachonoid granulation. The main presenting features are nausea, vomiting, headache, blurring of vision and double vision etc. If untreated it may lead to papiliedema and subsequently loss of vision.[11] The predisposing factor for BIH are female of child bearing age group, obesity, menstruation irregularities and iron deficiency anaemia, different endocrinopathies like cushing syndrome[4], hyperparathyroidism, hyperthyroidism and drugs. Among the drugs cemetidin, minocycline, tetracycline, vitamin A, cotrimoxazole, lithium, nitrofurantoin, corticosteroid, nalidixic acid, levothyroxin and amioderon are important.[3,5,6,12,13]

Here we describe a case where significant temporal association of levamisole with BIH was noted in a 22 year old youngman who was given levamisole as an immunomodulator for stabilizing his vitiligo. The signs and symptoms of BIH appeared the drug was introduced and it was confirmed by objective evidence of papilledema by ophthalmologist. There was no past history of similar drug intake. Significant clinical improvement was noted when the drug was withdrawn. On rechallenge the signs and symptoms reappeared. With thorough clinical examination and necessary laboratory investigation, we could not detect any other cause

which can precipitate the reaction. On administration of placebo there was no change in the patient. Due to lack of logistic support detection of drug in the blood could not be carried out. According to Naranjo causality scale of adverse drug reaction [14], the score was seven. Hence according to their scale the association of BIH with levamisole is probable. With thorough Pubmed search we could not found any report regarding the association of BIH with levamisole.

The case was reported due rarity of its occurrence and associated significant morbidity in the form of loss of vision if not identified and treated at earliest.

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