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CASE REPORT

HYPOGLYCEMIC EFFECT OF MADHUMEHARI CHURNA IN THE MANAGEMENT OF DIABETIC PERIPHERAL NEUROPATHY - A CASE REPORT

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ABSTRACT

A case of 55 year old male patient suffering from diabetes mellitus since 15 years, showing neuropathic symptoms in lower extremities since 2 years. The classical symptoms like parasthesia, numbness in both lower limbs along with burning and tingling sensation were present in the patient. These symptoms were aggravated since three months for which patients came to visit the OPD of RLAMCH, Chandkhuri, Durg. The patient was examined as per the routine procedure and shifted to the IPD for further specific treatment and management. In the IPD Madhumehari churn and Gomutra was given orally twice a day. This treatment regimen was continued for three months. The patients was first admitted for 10 days and consumed the medicine in medical supervision then the rest of the period had taken the medicine at home with every week follow up to the hospital. The serum blood glucose level was compared before and after the treatment, the result of which was significant in maintaining the blood glucose level within the optimum limit throughout the treatment period without any further worsening of the condition. The neuropathic symptoms were substantially decreased with the hopeful outcome.

INTRODUCTION

Globally, an estimated 422 million adults are living with diabetes mellitus, according to the latest 2016 data from the World Health Organization (WHO). Until recently, India had more diabetics than any other country in the world, according to the International Diabetes Foundation (IDF), although the country has now been surpassed in the top spot by China. Diabetes currently affects more than 62 million Indians, which is more than 7.1% of the adult population (Joshi *et al.*, 2007 and Kumar, 2013). The average age of onset is 42.5 years. Nearly 1 million Indians die due to diabetes every year. According to a study carried out in the year 2013 by the Indian Council of Medical Research India has 62.4 million people with Diabetes, out of which (>90%) have Type 2 diabetes (Anjana *et al.*, 2011 and Unwin, 2011). The most common long term complication of diabetes is DPN in the developing countries (Boulton, 2005). Duration of diabetes and degree of glycemic control are important predictive factors for the development of DPN (Tesfaye, 2005). The prevalence of DPN varies considerably among clinical studies because of the study population, design, and diagnostic criteria has different. Prevalence increases predictably with the duration of diabetes from 10% at diagnosis to as much as 53% after 25 yr of diabetes (Young, 1993). It is estimated that around half of the patients with chronic DPN experience pain and the majority of

them have features of chronic sensorimotor peripheral neuropathy. Diabetic neuropathy is the presence of symptoms and signs of peripheral nerve dysfunction in individuals with diabetes after the exclusion of other causes. Confirmation may require abnormalities in nerve conduction studies, quantitative sensory or autonomic tests or even histology of intraepidermal nerves in skin biopsies. Sensory nerve dysfunction may produce no. of symptoms; symptoms of tingling, numbness, or burning; or a sense of "walking on eggshells" or a "funny sensation" under the ball of the foot (Howard, 2001). When motor nerves are affected, the prominent feature is foot deformities, particularly the claw-toe deformity. When autonomic nerves are affected, sweating is lost, and dry, cracked skin may result. In ancient classical text this disease described under Prameha i.e. madhumeha. This is the disease of having basically metabolic derangement and genetic predisposition related with each individual body constitution and systemic consideration. Madhumeha has been described as one among the 20 types of Prameha & is a sub-type of Vatika Prameha in which patient passes excessive amounts of urine that tastes & looks like honey (Tripathi Bramhanand, 2005 and Tripathi Bramhanand, 2005). Though it is a subtype of Vataja Prameha it has more prevalence in the society and may be compared to diabetes mellitus of the modern medical sciences. The disease in which the properties of urine is similar with that of Madhu i.e. of Kashaya and Madhura rasa, ruksa (dry) guna and honey like colour, is widely known as Madhumeha

(Agnivesha Charaka samhita, 2009). The main factors involved in the pathogenesis are Vata, Pitta, Kapha, Meda and Oja (Tripathi Bramhanand, 2005). Therefore the treatment of this disease should be Tridosha shamaka chikitsa along with Brimhan-Karshana and Rasayana chikitsa (Tripathi Bramhanand, 2005).

Case Presentation: A 55 year old male patient visited to OPD of Rajiv Lochan ayurved medical college and hospital with complaints of burning and tingling sensation in his both legs, numbness in both hand, hypersensitivity of skin in right leg calf region since 3 months, he felt difficulty to climbing on stairs and handling small objects. The symptoms pain and burning sensation worse at air contact specially in night. Before visited in our hospital he was under treatment of allopathic physician and was taking anti diabetic medicine metformin 500mg daily with the breakfast.

History of Present Illness: According to the patient, he was well before fifteen years. Then he suffered from type 2 diabetes mellitus. He took medicines from the general medical physician and got symptomatic relief. Before two years ago he felt tingling and burning sensation in both legs, he took medicine from his physician and got relieved for few days, his problem again started and he also noticed increasing burning and tingling sensation below thigh and calf region, with mild difficulty to climbing on stairs. There he was advised for palliative treatment from his physician. He refused & came to RLAMC hospital to take Ayurvedic treatment.

Family History: Medical History: Mother 75 alive with hypertension (HTN), father died at age 56 from road traffic accident; 2 brother 50 year of age, one with HTN and one with alcohol abuse. Denies any known CAD, peripheral vascular disease (PVD), DM, cerebral vascular accident (CVA), cancer (CA), or sickle cell anemia.

Physical examination

- Bilateral red spots on calf +
- Body temperature: 98.6 F
- Pallor+
- Blood pressure: 140/90 mmHg
- Pulse: 76/min
- Respiratory rate: 20/min

Investigation: HbA1c -7.5% Blood glucose Fasting -130 mg/dl, Blood glucose Post Prandial -180 mg/dl.

Treatment: Patients was given Madhumehari churn (MMC) in the dose of 3 gm morning empty stomach with 30 ml of gomutra and 3 gm MMC with plain water at the evening, like this the medication was continued continuously for total of 90 days.

DISCUSSION

Diabetes peripheral neuropathy is advanced stage complication of type 2 Diabetes. In this context the effect of few herbal drugs were used to treat peripheral neuropathy. The effect of triphala, haridra, methika and Gomutra which is already tried in patients in previous studies as a single herbal drug formulary an important constituent of current polyherbal test drug. Haritaki effect can be enumerated from the usage of triphaladi kwatha granules (Khanapurkar *et al.*, 2008 and Gunjal, 2013). The proven hypoglycemic effect of triphala is well known to

scientific community. The significant glucose lowering effect can be enumerated by the presence of menthol and sorbitol as told by Sowmya S. Rajan (Sowmya, 2008). Curcumin on the longer effect on insulin serum but not on the plasma glucose level. Maximum inhibition of the enzyme HPA (Human pancreatic amylase) was obtained with curcuma longa isopropanoll extract and active extract. The inhibitory action on HPA causes starch hydrolysis (Widcenberg, 2010 and 2011). Methika (Fenugreek seed) seeds are high in soluble fiber, which helps lower blood sugar by slowing down digestion and absorption of carbohydrate and improving glucose tolerance. According to Arpana Gaddam *et al.* methika shows reduction in fasting plasma glucose and post prandial plasma glucose level along with decreased insulin resistance irrespective of prolonged duration of use.²⁰In various studies Gomutra shows anti hyperglycemic and antioxidant effect. However it produces significant lowering the blood glucose level and validates the claim that it is effective in diabetes. By this it is effective in improving the quality of after the consumption of scheduled drugs as advised to the patient due to their rejuvenating and antioxidant properties by eliminating the free radicals especially from the blood vascular tissues.

Conclusion

The effect of Madhumehari Churn along with Gomutra in the management Diabetic peripheral neuropathy have shown encouraging results with HbA1C level by slowing down from 7.5% to 6.5% and fasting and post prandial blood glucose were noted 90mg/dl and 130 mg/dl. Which can further be compared with any of the established medicine used for the long term treatment of diabetes and its associated generalized to specific complications. Again it was observed that the therapy is significantly effective and clinically safe as adverse events and reactions were not reported during the course of studies. It was concluded that the usage of shaman ausadhi in the form of MMC is very important to alleviate the present symptoms in a stable manner for longer duration and period of time along with further helping it not to recur or aggravate the symptoms by the resistance of the body tissues to the drug usage. Hence the prepared formulation can be taken for the multicentre trials in larger population to precisely infer its therapeutic efficacy and safety.

Footnotes

Contributors: C.P. Sinha and L.D.Sahu did the writing of the manuscript. N. Parida was responsible for the editing and revision of its contents and A. Sahu provided the prepared Medicine.

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