BACLOFEN IN THE MANAGEMENT OF INTRACTABLE HICCUPS –A CASE REPORT

N.S. Neki

Department of Medicine, Govt. Medical College/Guru Nanak Dev Hospital, Amritsar (Punjab), India

Abstract: *Many drugs and remedies are currently available for the treatment of hiccups; baclofen is good drug in relieving the intractable hiccups, where all other known durgs fail to provide relief. Hiccup is a sudden, involuntary contraction of inspiratory muscles (predominantly diaphragm) terminated by abrupt closure of glottis thereby stopping inflow of air and producing a typical sound. The basic defect seems to be stimulation of hiccup reflex arc vagus nerve, phrenic nerve and a hiccup centre in the upper spinal cord. Hiccup attacks usually last for few seconds or minutes and occur at brief interval. However intractable hiccup may be prolonged for months or years also. A case of intractable hiccup treated with baclofen producing complete relief is reported here.*

INTRODUCTION

Hiccups are particularly troublesome and frustrating both for the patient and the treating physician. They result from an involuntary clonic spasm of the respiratory musculature (chiefly of the diaphragm but also the intercostal muscles) with sudden interruption or a sequel to anaesthesia, diaphragmatic ileus or paradiaphragmatic irritation, paralytic ileus, alcoholism, cerebrovascular accidents, encephalitis, brain tumour, psychogenic, metablic causes including renal failure, hepatic failure, diabetic ketoacidosis, respiratory filure and electrolyte disturbances. Other causes include phrenic nerve irritation caused by pericardities, mediastinitis, compression by tumour and surgery of thorax or upper abdomen.

CASE REPORT

A 28 years educated male patient presented with hiccup of 3 weeks duration. He was having these troublesome episodes since 2 years. The attacks occurred at an interval of 3-4 months and each attack lasted for 1-2 months, thereby interfering wih his daily routine activities. He was nonalcoholic with no family history of hiccups. On questioning he admitted having taken many drugs like domperidon, metoclopramide, chlorpromazine, amitryptiline, diazepam, haloperidol and cisapride etc. with no relief. Laboratory profile revealed Hb 10,8gm dl, TLC and DLc within normal limits, FBS 95mg/dl. The profile of liver, kidney and serum electrolytes was normal, other investigations like x-ray chest, ECG, echocardiography, ultrasound abdomen, upper GI endoscopy, barium swallow and meal CT scan of head and abdoen all were essentially normal. He was started on tablet baclofen in doses of 5 to 10 mg twice daily for two days. His hiccup disappeared on 3rd day and the drug was continued for four weeks in tapering doses. He was followed up for 6 months with no adverse effects especially drowsiness.

DISCUSSION

Various remedies used for treatment of idiopathic hiccups include breathing into a closed paper bag, holding breath and increasing pressure on diaphragm, swallowing dry granulated sugar or ginegar, pharyngeal irritation, sips of iced water, stomach washes, tongue traction and lifting uvula etc. other drugs used with variable success include chlorpromazine, haloperidol, metochlopropamide, antacids, quinidine phenytoin, valproic acid, amitryptiline and nifedipine etc. But baclofen has been shown to be a novel drug for the management of intractable hiccups[1.2.3]

Baclofen is an analogue of the naturally occurring neurotransmitter gama aminobutyric acid (GABA), but unlike GABA it can cross the blood brain barrier. It is a potent natural depressant acting at bicuculline insensitive GABA receptors of GABAb receptors, which are widely distributed in the brain, Unlike other GABA receptors, they are metabotropic and are coupled to heterotrimeric serpentine which increase conductance in k+ efflux and increase in Ca2+ efflux producing an inhibitory post synaptic potential resulting in hyperpolarization of neurons, GABAb receptors inhibit the release of glutamate and aspirate. Baclofen is well absorbed after oral ingestion and has to be given twice or thrice daily. It can also be given directly into the space around the spinal cord(intrathecally) in order to minimize the adverse effect especially sedation. The pharmacological effects are mainly spinal in the daily therapeutic doses of 20-80 mg and higher doses are needed to hae effects on higher centres of brain 85% of the drug is excreted unchanged in the urine and needs dose modification in patients of end stage renal disease (ESRD) inorder to prevent toxicity[4.5] Uncommon adverse effects include nausea, vomting,diarrhea, headache, abdominal and chest pain, fatigue, pruritis, skin rashes, syncope, headache, palpiation dryness of mountiand taste disturbances. Clinical manifestations of overdose include absence of reflexes, vomiting, hypotonia, marked salivation, drowsiness visual disturbances, seizures respiratory drepression and coma[6]. Apart from ESRD other conditions predisposing to the development of toxicity with relatively low doses of baclofen include, elderly pregnancy, lactation, epilepsy, psychosis, respiratory and hepatic impairment.The toxicity is treated with atropine[7] baclofen should be tapered gradually to avoid withdrawal syndrome manifesting as hallucinations, seizures, pshychosis or even status epileptius[8] particularly if high doses are used.

CONCLUSION

Baclofen decreases the number and severity of hiccup spasms and relieves associated pain, cramps and muscle rigidity as observed in the present case, so it is a very good drug for the treatment of intractable hiccups before attempting surgical therapy.

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Correspondence: **Professor N.S. Neki,** *Department of Medicine, Govt. Medical College/Guru Nanak Dev Hospital, Amritsar (Punjab) India. e-mail : drnsneki_123@yahoo.com*