



Dicyclomine Dependence : A Case Report

KEYWORDS

Dicyclomine, Abuse, Muscarinic receptor.

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ABSTRACT *Dicyclomine is a commonly used anticholinergic drug in gastrointestinal dysfunction which acts via muscarinic receptor (M1) antagonism. We present herewith a case of an adult that presented to our out patient department with dicyclomine abuse and discuss some mechanisms involved in this phenomenon.*

INTRODUCTION

Dicyclomine is a widely used drug in gastroenterology and it acts via an antagonism of the muscarinic receptors (M1).¹ Apart from the gastrointestinal tract, the cholinergic receptors are widely expressed throughout the central nervous system (CNS). The importance of these receptors is well known in a widespread array of CNS functions including locomotor activity, emotional behavior, pain sensitivity, learning and memory.²⁻³ The M1 muscarinic receptor is expressed in various regions of the forebrain including cerebral cortex, hippocampus, amygdala, nucleus accumbens, and striatum.⁴⁻⁵ Many of these regions play a role in reward system of the brain including the pleasurable sensations felt by consuming substances of abuse.⁶ Here we report a case of a female patient with dicyclomine abuse and look at various mechanisms that may have contributed to the same.

CASE REPORT

A 40 year old female patient presented to the out patient section of the psychiatry department with complaints and symptoms suggestive of Obsessive Compulsive Disorder. At the time of taking her history and conducting a mental status examination, she revealed that she had been consuming six tablets of Dicyclomine 20 mg each daily since last one year. An obstetrician had prescribed these tablets to her at a dose of one tablet when needed for colicky pain in abdomen due to Dysfunctional Uterine Bleeding. Whenever the pain got worse, she used to take an extra tablet. Likewise she herself started taking 4 to 5 tablets daily. Her pain would reduce considerably and at the same time she noticed that she started feeling fresh and relaxed after each dose and was more energetic to do her daily household chores and also mentioned that her mood was better than prior after increasing the dose of dicyclomine.

After complete treatment of her dysfunctional uterine bleeding, she tried to taper the dose but she used to get irri-

table, restless, would have decreased sleep and had an intense craving for the tablets. These symptoms would be relieved when she would take Dicyclomine. Hence a diagnosis of Dicyclomine dependence was added to her psychiatric diagnosis. When admitted with us, we planned to taper the tablets very slowly and at the same time we gave her Clonazepam 1.5 mg per day in three divided doses (a long acting Benzodiazepine preparation used to tackle anxiety and restlessness and anxiety due to withdrawal). She was taught relaxation exercises as well to manage her anxiety. While tapering the dose of the tablet, we asked her to make the tablet powdered and to remove half a pinch of the powder every two days. Likewise over next few days her dose was tapered slowly and after two months she got free of the tablets. We then tapered her dose of Clonazepam in four weeks and she is currently drug free.

DISCUSSION

Muscarinic acetylcholine receptors (M1-M5) modulate the activity of the central nervous system and have a range of physiological functions. The M1 muscarinic receptor is expressed in various regions of the forebrain including cerebral cortex, hippocampus, amygdala, nucleus accumbens, and striatum.⁷ In addition, a recent report revealed that M1 receptor is involved in the rewarding effects of morphine and cocaine.⁸ The exact mechanisms of this neurobiological process are unknown. Dicyclomine is used widely by general practitioners, physicians and gastroenterologists. We have not come across any previous reports of dicyclomine dependence except one in a young boy.⁹ It is also noteworthy that probably the brain of a patient who has certain psychiatric disorders is probably neurobiologically primed in the reward system and may feel a sensation of well being and mood elevation even with drugs that may have just physical benefits as is in this case. Till further research elucidates the details of such phenomena it is prudent that practitioners be aware of dicyclomine leading to dependence in some patients and exercise caution when prescribing the same for a long duration.

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