



## Anosmia due to Varenicline; A case report

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### Abstract

Varenicline is used as a smoking cessation-aid. It is an effective agent with a variety of side effects.

We report a case of a 59 years smoker who developed anosmia while using Varenicline. This lasted while using the agent and sense of smell returned back on cessation of treatment.

**Key words:** Varenicline, smoking , side effects.

### Introduction

Smoking is the main preventable cause worldwide of morbidity and premature death. At current rates of smoking, about half of all smokers in the USA and the UK will die prematurely of tobacco-related diseases<sup>1</sup>. Varenicline was developed in 1997, and is described as a selective nicotinic receptor partial agonist<sup>2</sup>. It was designed to selectively activate the  $\alpha 4\beta 2$  nAChR, mimicking the action of nicotine and causing a moderate and sustained release of mesolimbic dopamine. The drug was based on the naturally occurring alkaloid compound cytosine. Most common side effects are nausea, insomnia, headache, abnormal dreams, constipation and abdominal pain<sup>3</sup>. We report a case of anosmia due to use of Varenicline.

### Case report

A 59 years old male patient presented to the clinic in Erfan-Bagedo General Hospital, Jeddah, Saudi Arabia, with a history of anosmia and loss of taste for one month. There was no history of rhinorrhea, sneezing, blocked nose or post-nasal discharge. No other ENT history was obtained. He was a known diabetic with a past history of malignant haemangiopericytoma of the right parotid region 10 years ago. He was on Tablet Metformin 500 mg. b.i.d and Tablet Varenicline 1 mg. b.i.d.

General examination was uneventful. Ears and throat examination were within normal limits. Examination of the nose revealed a slightly hypertrophied inferior turbinates with normal coloured mucosa and absence of any discharge.

CT scan of the base of skull and cribriform area was within normal limits.

The patient was started on Fluticasone propionate (50 microgram), two puffs in each nostril once a day. The patient was seen after one month with stating that he used the corticosteroid spray for 3 weeks with no improvement in his sense of smell. However, his sense of smell returned back in the last one week as he ran out of Varenicline tablets.

Patient was seen three months later with the return of his anosmia since he started using Varenicline again. He was advised to stop using Varenicline for another trial period of one month. He reported back one month later stating his senses of smell has returned.

However the patient was determined to give up smoking and he insisted on continuing with Varenicline.

The patient was seen 18 months later and he was asymptomatic and he has stopped smoking and hence using Varenicline.

### **Discussion**

When people stop smoking they experience cravings to smoke and unpleasant mood changes. Nicotine receptor partial agonists aim to reduce withdrawal symptoms and smoking satisfaction. Nicotine receptor partial agonists may help people to stop smoking by a combination of maintaining moderate levels of dopamine to counteract withdrawal symptoms (acting as an agonist) and reducing smoking satisfaction (acting as an antagonist). The use of these medications are not free of side effects. Approximately 3% of patients experienced symptoms of depression and the majority of these cases appeared to have a causal association with Varenicline. Serious psychiatric reactions including suicide, suicidal ideation and psychotic reactions were also identified, but these were less frequently reported<sup>4</sup>. Varenicline is associated with an increased risk of serious neuropsychiatric AEs, especially in patients with a psychiatric illness<sup>5</sup>. Rigotti et al stated that Varenicline is effective for smoking cessation in smokers with cardiovascular disease. It was well tolerated and did not increase cardiovascular events or mortality<sup>6</sup>. While Singh et al are concerned about the potential for an increased risk of serious adverse cardiovascular events associated with the use of Varenicline<sup>7</sup>.

We report a case of a 59 years old smoker with anosmia due varenicline use. The patient suffered anosmia while using Varenicline but disappeared after cessation of treatment

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