

# Tinnitus following Antidepressant use in a Female with Depression

#### Fahad Abdullah Almatham\*

Unaizah Collage of Medicine at Qassim University, Saudi Arabia

\*Corresponding author: Fahad Abdullah Almatham, Unaizah Collage of Medicine at Qassim University, Unaizah, Qassim Region, Saudi Arabia, Tel: 966 16 380 005 Email: fahad.almatham@ucm.edu.sa

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### Abstract

This case report describes 37-year-old female known case of Major Depression (DSM-IV-TR) for 12 years. She develops tinnitus 3 weeks after starting citalopram 40 mg daily and psychotherapy sessions, which resolved completely when citalopram discontinued. She was distressed by that sound scoring 40 on Tinnitus Handicapped Inventory Severity Scale (THI). ENT referral excludes other medical possibilities of Tinnitus. It is rare side effect of antidepressant specially SSRIs. In fact there are few trials of antidepressants has been used to treat tinnitus. With this report literature review about antidepressants induced tinnitus is provided.

## Introduction

Tinnitus is the perception of sound within human ears when no actual sound is present. Usually patients describe it as "ringing" sound in their head. It is a condition rather than a disease which result from wide range of underlying causes. It is a subjective phenomenon that measured and described based on patient response only. According to American Tinnitus Association (ATA), 10% of United States population experience tinnitus at least once in their life.

Because tinnitus is stressful experience, psychological problems including depression and anxiety are common in those patients [3].

Tinnitus is rarely described as side effect from antidepressants in particular Selective Serotonin Reuptake Inhibitors [1,2]. Paradoxically, antidepressants have been tried for tinnitus management in many cases even in non depressed patients [3-8]. By searching PubMed and Cochrane Database, few previous reports were found about antidepressants induced tinnitus. There are five reported cases of tinnitus following using of tricyclic antidepressants [1,2,10,12,13] and two reported cases with venlafaxine [9,11]. In this report, the case of patient who experience tinnitus following using of citalopram.

## **Case Report**

Ms. K, a 37 years old female presented with long history of Major Depression (DSM-IV-TR) for 12 years. She seeks help initially by frequent visits to faith healer with no much improvement then she was seen in private psychiatry clinic and tried on several antidepressants (Amitriptyline 150 mg per oral daily) for 3 years then shifted to (Fluoxetine 20 mg per oral daily) for another 5 years. She showed good gradual improvement, socializing and functioning very well as a teacher over last year. She discontinue Fluoxetine without medical advice and started to relapse again in form of low mood, loss of interest, poor concentration, disturbed sleep and appetite, as well as death wishes which lead to marked impairment in her work and social activities. She was seen again and started on Citalopram 40 mg orally once daily (first started on 20 mg once daily for 2 weeks then pushed to 40 mg daily) and psychology referral was made for cognitive behavioral therapy as well.

In the beginning of 3rd week she experience vague buzzing sound heard inside her both ears. Ms. K describes this as if she is sitting besides working machine. That sound increased in noon time accompanied by feeling dizzy sometimes. This sound present even when she was talking to people or watching TV but she notices it more when she sits alone in quite place. During that time she became preoccupied and distressed by this sound, which disturbed her sleep and concentration. During that time there is no history suggestive of auditory hallucination or other psychotic features. She denies any history of nausea, vomiting, headache or loss of consciousness. Her medical history is unremarkable.

Ms. K was seen again at 8th week of starting citalopram and she was referred to ear, nose and throat specialist and from initial assessment ear infections was excluded as well as hearing test and audiometric exam were normal. Basic investigations were requested and all within normal limits including thyroid function test. Diagnosis of tinnitus was made and citalopram discontinued. Tinnitus Handicap Inventory Severity Scale (THI) was used to grade her tinnitus severity and distress. At that time, she rates herself 40 out of 100 which indicate moderate severity tinnitus. 7 days after discontinuation of citalopram, Ms. K describes gradual decrease in tinnitus regarding intensity and duration then she completely recovered from tinnitus after 14 days. Tinnitus Handicap Inventory Severity Scale was repeated again in 7 and 14 days after stoppage of citalopram and results shown in (Table1). Her mood symptoms are improved gradually and although she return to her usual life activities and her mood became good with no more death wishes, she still complaining of disturbed sleeps some nights. She describes great improvement in her concentration and now she is following her psychotherapy sessions without medications till writing of this paper.

## Discussion

Tinnitus has close association with some serious comorbid psychiatric disorder. High prevalence of anxiety and depression has been reported in tinnitus patients with primary compliant about concentration and sleep difficulties. Tinnitus is experienced as an annoying and disabling condition and a pressing reason for seeking professional help. Limbic system and Serotonin (5-HT) neurotransmitter appears to play a role on tinnitus by its action on brain and auditory pathways [14]. The literature had few evidence associating the use of antidepressants and onset of tinnitus, all of these demonstrate temporal relationship between antidepressants use and onset of tinnitus. Some of these reports describe that tinnitus subsided when antidepressants stopped whereas others not. Most of reports in females like our patient and most of them use tricyclic antidepressants (imipramine and amitripty line) in average dose for patients with depression [1-2]. Tinnitus in these reports occurs within 2 weeks of using amitripty line or imipramineat average daily dose of (50-150 mg) per day. Tinnitus in these reports resolved within 1 week. All those patient using antidepressants for depression like our patient except one he uses amitriptyline for neuralgic foot pain [2]. In some reports decreasing the dose was enough and good solution, whereas others they had to discontinue the antidepressants [10,12,13]. In this case the decision to stop citalopram was made because she is already on psychotherapy sessions and her mood is improved. Other reports describe tinnitus with venlafaxine (75 mg per oral daily) and resolved when medication stopped then recur when given again [9,11].

One case report of occurrence of tinnitus as part of discontinuation syndrome after abrupt stoppage of venlafaxine in depressed patient [8]. In other hand, till now no FDA approved drug for tinnitus but antidepressant considered one line of management especially selective serotonin reuptake inhibitors although their exact mechanism of action on tinnitus still unknown [3-7]. Cognitive behavioral therapy (CBT) is playing a good role in tinnitus patient. Results of metaanalytic reviews have demonstrated that CBT is effective for alleviating anxiety and depressed emotions associated with tinnitus and improving quality of life in general. However, they found little effect on tinnitus loudness [15-17]. In this case, tinnitus probably resolved by stopping the drug rather than psychotherapy sessions because sessions was offered with initiation of citalopram and before occurrence of tinnitus and resolved 2 weeks after citalopram stoppage. In Ms. K. case there are similarities with previous reported cases in some aspects: female patient, time of tinnitus onset after starting antidepressants and time of resolving after discontinue. As a relapse prevention plan for this case, Ms. K educated about early sign of relapse in depression based on her past episodes. She is instructed to do Beck Depression Inventory (BDI) on each visit to her psychologist and she had immediate access to emergency mental health services in her area. It has been advised to Ms. K., if she develops depressive symptoms later on which necessities antidepressant to use Citalopram again and watch for tinnitus emerge which increase probability of tinnitus as a side effect of Citalopram.If tinnitus occurs again or Citalopram failed, Fluoxetine will be best approach because of its previous response and good tolerability in this case. Follow up report about this case may provide later on if needed.

Clinical trials are now underway to evaluate tinnitus; its underlying neural mechanism and its relation to many neurotransmitters including serotonin hoping that will give opportunity to mange those patients in a better way.

Event	Score
Citalopram 40 mg per oral daily	40
7 days post discontinuation	18
14 days post discontinuation	0

 Table 1: Tinnitus Handicap Inventory Severity Scale

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