Clinical Forum

A Search for Evidence of a Direct Relationship between Tinnitus and Suicide

Gary P. Jacobson*
Devin L. McCaslin*

Abstract

The purpose of this investigation was to determine whether there exists in the scientific literature support for a cause and effect relationship between tinnitus and suicide. MEDLINE and HealthStar databases were queried using the combined search terms "tinnitus" and "suicide" over the time period from 1966 to 2001 for MEDLINE and from 1975 to 2001 for HealthStar. Foreign-language reports were included if they had been translated into English or, at least, if they contained an English-language translation of the abstract. A total of three published reports pertinent to this topic were recovered. None of these reports showed a causal relationship between tinnitus and suicide. More often, patients who had attempted or committed suicide had significant preexisting psychiatric conditions, the most common being depression. Accordingly, it is our conclusion that nowhere in the existing literature is there any evidence supporting a cause and effect relationship between tinnitus and suicide.

Key Words: Depression, suicide, tinnitus

It is not uncommon to read in the popular literature anecdotal reports of patients with tinnitus of a severity that caused them to consider, attempt, or complete suicide. These news features (e.g., Johnson, 1997; Davis, 2001) and other anecdotal reports generally have been promulgated by well-meaning individuals who have attempted, on the basis of these reports, to advocate for the plight of the tinnitus sufferer.

It was our clinical impression that it was unlikely that tinnitus alone could have caused distress of a magnitude to cause a patient to commit suicide. It was more likely that comorbid conditions such as clinical depression would have served to amplify a patient's reaction to tinnitus. As such, an investigation was conducted in an attempt to help determine the strength of the relationship between tinnitus and suicide. A review was conducted of peer-reviewed publications between 1966 and 2001 that pertained to the topic of tinnitus-related suicide.

METHOD

MEDLINE and HealthStar databases were queried using the combined search terms "tinnitus" and "suicide" over the time period from 1966 to 2001 for MEDLINE and from 1975 to 2001 for HealthStar. These terms were used both as topic headings and as key words. Foreign-language reports were included only if they had been translated into English or if they contained an English-language abstract. Once recovered, these articles were reviewed for evidence of a direct relationship between tinnitus and suicide. That is, the articles were reviewed for completeness of medical and psychological histories prior to the suicide.

RESULTS

The literature search yielded 12 articles over the period of time from 1966 to 2001. Eight of the 12 articles addressed tinnitus occurring as a result of self-poisoning (e.g., quinine, carbamazepine, potassium bromide, salicylates) and were excluded from this analysis. The remaining 4 articles directly addressed the topic of tinnitus and suicide. In 2 of the investigations (i.e., Frankenburg and Hegarty, 1994; Johnston
Table 1 Summary of Investigations Addressing the Subject of Tinnitus-Related Suicides

<table>
<thead>
<tr>
<th>Investigation</th>
<th>N</th>
<th>Male/Female</th>
<th>No. of Suicides Attempted/Completed</th>
<th>Probable Psychiatric Comorbidity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frankenburg and Hegarty, 1994</td>
<td>2</td>
<td>1/1</td>
<td>2/0</td>
<td>100</td>
</tr>
<tr>
<td>Lewis et al, 1994</td>
<td>28</td>
<td>20/8</td>
<td>28/27</td>
<td>96 (estimated)</td>
</tr>
<tr>
<td>Johnston and Walker, 1996</td>
<td>1</td>
<td>1/0</td>
<td>1/0</td>
<td>100</td>
</tr>
</tbody>
</table>

and Walker, 1996), a total of 3 patients were reported who had made unsuccessful suicide attempts. Lewis et al (1992) reported 6 cases of suicide. A later study by Lewis et al (1994) summarized the data from 28 patients with tinnitus who committed suicide. There is evidence in the latter report that the 6 individuals reported in 1992 also were incorporated into the 1994 article, and this is the only one shown in our summary of the three pertinent articles (Table 1).

Lewis et al (1992) described 6 cases of individuals with tinnitus who committed suicide. Five of the 6 patients were known to the authors. The sixth individual was the subject of a report in a local newspaper. Four of these individuals for whom full information was available had preexisting psychiatric disorders for which medication had been prescribed. The most common psychological problem was depression, which affected all 6 individuals, and 4 were reported to have had major depressive illnesses. No standardized measures of depression were reported. Five individuals had been evaluated by a psychiatrist for other problems (e.g., paranoid delusions, auditory hallucinations [voices], anxiety state) prior to being evaluated in the tinnitus clinic. It is noteworthy that 1 of the 6 individuals in this report who had attempted suicide later was strangled by his son, which does not constitute suicide.

Of 28 patients reported by Lewis et al (1994), 10 had a history of diagnosed psychiatric disease (major depression being most common) prior to the onset of tinnitus, and another 8 were judged to be depressed by family members or a primary care physician. As with the previous report, no standardized measures of depression were reported for these individuals. No information existed regarding how many of these patients were being treated for depression. An additional 4 patients were reported to have had “problems with alcohol.” One patient was described by the authors as not having psychiatric symptoms at the time of suicide.

Both patients described by Frankenburg and Hegarty (1994) had histories of significant psychiatric disease (i.e., depression and paranoid disorder), although no additional data are available. Finally, the case report of Johnston and Walker (1996) described a suicide attempt in a patient with tinnitus and a prior history of depression.

**DISCUSSION**

Suicide has been defined operationally as “a conscious act of self-induced annihilation occurring in a life situation in which death is felt to be the best possible solution” (Shneidman, 1989). In this regard, it is known that two-thirds of geriatric suicides may be related to depression (Osgood, 1991). In addition to coexisting psychiatric diseases, general risk factors for suicide are being male, elderly, single (e.g., single, divorced, or widowed), socially isolated, living in an urban environment, post relocation, and inadequate social support (Garner et al, 1964; DeLeo and Ormskerk, 1991). It should be noted that single elderly are three times more likely to commit suicide than others (DeLeo and Ormskerk, 1991). The risk of suicide increases if the patient has a history of mental illness and/or has made prior suicide threats or attempts.

In the small number of reported cases, most patients with tinnitus who committed suicide had preexisting psychiatric conditions that, in all likelihood, potentiated their response to tinnitus. The primary psychiatric disease was depression. Based on the ratio of the number of patients who committed suicide (known to the authors) and the size of their clinic population, Lewis et al (1992) extrapolated the incidence of suicide for patients with tinnitus to be 118 in 100,000. If correct, this value would be far greater than the incidence of suicide in England and Wales, which the authors reported to range from 8 in 100,000 (i.e., for women) to 12 in 100,000 (i.e., for men). There are problems in making incidence calculations based on statistics collected over a 1-year period (i.e., between March 1990 and April 1991, as was
done by Lewis et al (1992). The data may not be inclusive, that is, others may have committed suicide who were not known to the investigators. Also, it is unknown whether these counts were a “spike” in an otherwise flat distribution occurring in prior years. That is, it is possible that, in prior years, the incidence of suicide in the group of patients with tinnitus actually was identical to that found in the normal population and that the data collected in the year commencing March 1990 were an anomaly.

The question must be asked whether the data that exist provide evidence in support of a direct and predictive relationship between tinnitus and suicide. In fact, there is no evidence in this small and poorly documented literature that would suggest that such a relationship exists. It is likely that most or all of the patients described had preexisting psychiatric conditions that challenged their coping abilities. Lewis et al (1992) suggested that “depressed people with tinnitus are more likely to come to the attention of doctors, as they are less resilient and less able to cope with chronic discomfort” (p. 35). However, having said that, the same investigators stated, “The practicing audiologist and otologist need to be aware of the possible increased risk of suicide among tinnitus sufferers” (p. 37). We believe this to be a misstatement. In light of what we know, it is more appropriate to state that “the practicing audiologist and otologist need to be aware of the possible risk of suicide among clinically depressed tinnitus sufferers.”

In contrast to the suggestions of other clinicians (Wilson and Henry, 2000), we do not actively seek to determine whether our patients have considered, or are considering, suicide. In our experience, asking the question, in and of itself, tells the patient that others have committed suicide; thus, suicide is a possible outcome of having tinnitus. However, clinicians should be attentive to statements made by patients suggesting that they consider suicide to be a reasonable alternative (i.e., suicidal ideation) to other methods available to assist patients in coping with tinnitus.

The findings of this review suggest that it is not tinnitus per se that results in suicide but concomitant psychiatric conditions that amplify the effect of tinnitus on the individual patient. This is an important distinction both from an epidemiologic standpoint and from the standpoint of both evaluation and counseling. For instance, it has been our clinical practice, prior to a first face-to-face meeting, to require patients to complete the Beck Depression Inventory (Beck et al, 1961), the Modified Somatic Perception Questionnaire (Main, 1983), the Tinnitus Reaction Questionnaire (Wilson et al, 1991), and the Tinnitus Handicap Inventory (Newman et al, 1996, 1998). The product of these assessments is a general sense of the degree that tinnitus is impacting a patient’s life. In previous work (Newman et al, 1994), we have identified patient profiles suggesting that some patients are “high self-attenders” (i.e., patients who show evidence of clinical depression, somatization, and a greater magnitude of reaction to tinnitus and self-perceived tinnitus handicap), whereas others may be “low self-attenders” (i.e., patients who do not demonstrate evidence of clinical depression and somatization and who may demonstrate lesser magnitudes of tinnitus reaction and self-perceived tinnitus handicap). We suggest that patients who present with profiles indicating that they may be clinically depressed in addition to demonstrating significant tinnitus disability/handicap should benefit from combined psychological/psychiatric assessment and management and concomitant nonmedical management (e.g., tinnitus retraining therapy) of tinnitus. Alternatively, we suggest that patients who do not show evidence of clinical depression and somatization but who do demonstrate a strong reaction to tinnitus and self-perceived tinnitus handicap should benefit more from nonmedical management of tinnitus alone. As with any type of condition, in tinnitus, there is no panacea for treatment. Instead, the constellation of data including the patient interview and the clinician’s intuition (based on previous clinical experiences), combined with these standardized measures, should direct the recommendation for treatment.

There are some shortcomings of this review that should be mentioned. First, the review is limited to those reports published in peer-reviewed journals. It is possible that the area of tinnitus and suicide has been under-reported in the scientific literature. That is, it is possible that more patients have committed suicide as a direct result of their response to tinnitus and have not as yet been reported. Also, it is possible that other articles exist on this topic, and the authors did not use the terms “tinnitus” and “suicide” as either key words or in the body of the abstract. It is unlikely that a significant publication addressing this topic would have omitted these terms.
REFERENCES


Johnson L. (1997). More people have medical condition of ringing in the ears from increasing societal noise. The Record 1997 Nov 13; L06.


