ABSTRACT

Stapedectomy is very effective in improving the hearing for patients with otosclerosis. Of the 8 patients studied, there were 6 men and 2 women. All of the patients except for one were of Caucasian ethnicity. Average age was 44.1 ± 14.2 years old. Three patients had otosclerosis affecting their left ear, and three patients were affected in their right ear alone. Two patients had bilateral otosclerosis, giving a total of 8 patients with 10 affected ears. Early studies have provided a rationale for the use fluoride for the treatment of otosclerosis. Based on the epidemiologic data on fluorine levels and the high degree of bone density in the otosclerotic foci, early studies were conducted to evaluate the role of calcium in the formation and maintenance of bone. Several studies demonstrated a statistically significant greater decrease in hearing loss was experienced in the control arm of a study and significant improvement in the hearing of patients with early otosclerosis. We present the senior author’s experience.

METHODS AND MATERIALS

After IRB approval, a retrospective chart review was undertaken of patients diagnosed with otosclerosis and treated by the senior author with Florical, each tablet containing 3.75mg of sodium fluoride, 3mg of strontium, and 0.15mg of calcium. 13 patients combining the early, may prevent progression of hearing loss. It may be better tolerated than other sodium fluoride preparations, as demonstrated by several otologic centers. Florical is another fluoride alternative supplement; it is combined with calcium because increased fluoride treatment may decrease calcium levels in the body. It is prescribed 1 tablet daily dosing, and one patient received two Florical tablets twice daily. No patients discontinued use of Florical because of adverse side effects. Only two patients (25%) reported dyspepsia, reported as mild, and resulting in one patient taking the tablets only twice daily. The medication was well tolerated.

RESULTS

Of the 8 patients studied, there were 6 men and 2 women. All of the patients except for one were of Caucasian ethnicity. Average age was 44.1 ± 14.2 years old. Three patients had otosclerosis affecting their left ear, and three patients were affected in their right ear alone. Two patients had bilateral otosclerosis, giving a total of 8 patients with 10 affected ears.

Following Florical treatment, there was no statistically significant change in the mean hearing thresholds at 500Hz, 1000Hz, and 2000Hz. All patients except for one were of Caucasian ethnicity. The average age was 44.1 ± 14.2 years old. Three patients had otosclerosis affecting their left ear, and three patients were affected in their right ear alone. Two patients had bilateral otosclerosis, giving a total of 8 patients with 10 affected ears.

As noted in other studies, the treatment response that we experienced may in fact be secondary to initiating Florical relatively early in the disease progression. Derks et al, found fluoride treatment more effective when the initial sensorineural hearing loss was less than 50 dB. The argument can be made that initiating Florical as early as possible in otosclerosis may help to stall and/or prevent the progression of the disease.

This study may also show evidence that Florical is better tolerated than other sodium fluoride preparations and the frequency of adverse events is minimal. The formulation utilized has the addition of calcium carbonate, which may help to alleviate some of the frequency of gastrointestinal side effects associated with sodium fluoride administration alone. As a sustained course of therapy appears effective, it is important that such medications be well tolerated, with an acceptable side effect profile.

CONCLUSIONS

Florical may be considered as a treatment option in early otosclerosis in an attempt to prevent ongoing hearing degradation and delay progression of the disease. Further prospective studies are warranted.

REFERENCES