

Speech aid prosthesis for a patient with Wegener's Granulomatosis: A Clinical Report

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Wegener's granulomatosis was first described as a distinct clinicopathologic entity in 1936 by Wegener.¹ The clinical and histopathologic features that characterize this condition are necrotizing granulomas of the upper and lower respiratory tract, necrotizing vasculitis of small arteries and veins, and renal involvement with rapid onset of glomerulonephritis.^{2,3} There are two recognized clinical presentations of Wegener's granulomatosis: generalized and limited forms.^{4,6} The limited presentation of Wegener's granulomatosis, as described by Carrington and Liebow,⁶ exhibits renal sparing.

The most common clinical signs and symptoms of Wegener's granulomatosis are upper/lower airway illnesses, which include coughing, persistent rhinorrhea, and otitis media (secondary to blockage of the Eustachian tube).⁷ Orally 6% to 20% of Wegener's granulomatosis patients will exhibit either nonhealing ulcers or hyperplastic granular gingiva or both.^{7,8} A review of the literature from 1930 to 1990 reveals 85 cases with oral involvement, and hyperplastic gingiva is viewed as highly characteristic of Wegener's granulomatosis.

Typically the gingiva will appear hyperplastic, red to purple with characteristic petechiae.^{2,3,8,9} Clinically the gingival lesion has been referred to as "cobblestone"^{3,10} in appearance or "strawberry gums"¹¹ and may also be associated with alveolar bone loss.³ Wegener's granulomatosis demonstrates a slight male predominance with the male-to-female ratio ranging from 1.2 to 1.6 to 1,^{7,12,13} and the mean age of occurrence is 50 years.^{12,13}

This clinical report describes the treatment of a patient with the limited form of Wegener's granulomatosis. As a result of her soft palatal destruction, normal speech was not possible. A speech aid prosthesis was used and adequately restored form and function.

Clinical Report

A 42-year-old woman was referred to the department of Prosthodontic Crown & Bridge IDS Bareilly, with the chief complaint of hypernasality in her speech pattern (Figure 1).

The diagnosis was Wegener's granulomatosis, which involved the upper respiratory tract with nasal perforations and bone destruction, conductive hearing loss, and lachrymal involvement.

At the time of examination, she was

clinically stable. Her diagnosis was made by exclusion because the antineutrophil cytoplasmic activity (ANCA) titers were never positive. The patient's speech pattern was hypernasal, and oral examination revealed a velopharyngeal insufficiency caused by a loss of posterior soft palate (Fig. 2). The patient had not received speech therapy before this time.

Procedure

The maxillary teeth were available for retention of a speech aid prosthesis. An impression was made in reversible hydrocolloid in a stock metal tray modified with wax.

The impression was extended to the pharyngeal end of the soft palate and a master cast was fabricated in stone. The palatal portion of the speech aid prosthesis was designed and fabricated on the master cast. Two sections of 18-gauge stainless steel orthodontic wire were soldered together with silver solder to form a bar. The bar was adapted to the master cast, bent to fit into the area of the shortened soft palate, and attached to the palatal portion of the speech aid by use of autopolymerizing acrylic resin.

The anterior portion of the speech aid was adapted to the mouth and the patient wore this for 1 week to ensure that the palatal portion was in complete adjustment.

The pharyngeal section was adapted with green stick compound and wax as described by Curtis et al.¹⁴ the pharyngeal section was converted to heat-polymerizing acrylic resin.

The speech bulb was adjusted & delivered to the patient (Figs. 3-5).

The patient was re-evaluated for speech after a 4-week period.

A speech pathologist evaluated the patient's speech by using perceptual judgment with a standardized speech passage and a nasoendoscopic examination,¹⁵

A significant reduction in hypernasality with a 95% closure of the velopharyngeal valve was noted. Because of the success of the initial prosthesis, a definitive speech aid prosthesis was fabricated.

Summary

A speech aid prosthesis was fabricated to correct the hypernasality of the speech of

a patient. The hypernasality was caused by velopharyngeal insufficiency related to Wegener's granulomatosis. Speech aids have been used for cleft palate patients for whom surgical treatment was not indicated, surgical treatment was declined, or before surgical treatment as an evaluation for possible speech improvement. A speech aid prosthesis can be an important treatment modality when surgical correction of a velopharyngeal defect is not indicated.

References

1. Wegener F. Uber genera[asierte septische gefasserkrankungen. Verh Dtsch Pathol Ges 1936;29:202-10.
2. Eufinger I-t, Machtens E, Akuamofo-Boateng E. Oral manifestations of Wegener's granulomatosis. Review of the literature and report of a case. Int J Oral Maxillofac Surg 1992;21:50-3.
3. Emery C. Wegener's granulomatosis: a case study in general dental practice. Dent Update 1993;20:150-1.
4. Cassan SM, Coles DT, Harrison EG Jr. The concept of limited rotors of Wegener's granulomatosis. Am J Med 1970;49:366-79.
5. Spigel GT, Kra[I RA, Hifal A. Limited Wegener's granulomatosis. Unusual cutaneous, radiographic, and pathologic manifestations. Cutis 1983;32:41-51.
6. Carrington CB, Liebow A. Limited forms of angitis and granulomatosis of Wegener's type. Am J Med 1966;41:497-507.
7. Fauci AS, Haynes BF, Katz P, Wolff SM. Wegener's granulomatosis: prospective clinical and therapeutic experience with 85 patients for 21 years. Ann Intern Med 1983;98:76-85.
8. Patten SF, Tomecki KJ. Wegener's granulomatosis: cutaneous and oral mucosal disease. J Am Acad Dermatol 1993;28:710-8.
9. Handlers IP, Waterman J, Abrams AM, Melrose RJ. Oral features of Wegener's granulomatosis. Arch Otolaryngol 1985;111:267-70.
10. Allen CM, Camisa C, Salewski C, Weiland, JE. Wegener's granulomatosis: report of three cases with oral lesions. J Oral Maxillofac Surg 1991;49:294-8.
11. Napier SS, Allen JA, Irwin CR, McCluskey DR. 'Strawberry gums'-a case of Wegener's granulomatosis. Br Dent J 1993;175:327-9.
12. McDonald TJ, DeRemee RA. Head and neck involvement in Wegener's granulomatosis (WG). Adv Exp Med Biol 1993;336:309-13.
13. Anderson G, Coles ET, Crane M, et al. Wegener's granuloma. A series of 265 British cases seen between 1975 and 1985. A report by a subcommittee of the British Thoracic Society Research Committee. Q J Med 1992;83:427-38.
14. Curtis TA, Beumer J HI, Firtell DN. Maxillofacial rehabilitation-prosthodontic and surgical considerations. St Louis: CV Mosby, 1979:267-72.
15. Bardach J, Morris HL. Multidisciplinary management of cleft lip and palate. Philadelphia: WB Saunders Co, 1990:811-2.

