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Lesson of the Week

Value of opinion by oral physician in diagnosing Wegener's granulomatosis

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Adequate and appropriate oral biopsy by an oral physician may help diagnose potentially life threatening systemic disease

It has long been appreciated that the mouth is the mirror of the rest of the body. Many systemic diseases have oral symptoms, which often coincide with widespread evidence of disease. In some cases, however, oral symptoms may be the sole presenting sign of systemic disease. This may cause difficulty in diagnosis, yet little attention is paid to examination of the oral cavity in medical undergraduate training. It is therefore important that patients with oral lesions are referred to specialists in oral medicine for diagnosis, investigation, and management. We report on a patient in whom the diagnosis and treatment of a potentially life threatening systemic disease was delayed owing to poor appreciation of the clinical importance of oral lesions.

Case report

A 53 year old woman presented with a history of bleeding gingiva. She had had ulcerative colitis for 12 years, which was controlled by sulphasalazine treatment. Her general dental practitioner had extracted all her remaining teeth on the assumption that her bleeding gingiva and mobile teeth were due to periodontal disease. No biopsy specimen was taken at this time. Dentures were made, but she could not tolerate them, and the gingiva continued to bleed.

She was next seen by an oral surgeon, who, in view of her history of ulcerative colitis, diagnosed pyostomatitis vegetans. An oral biopsy specimen showed non-specific chronic inflammation with hyperplasia and atypia. She was referred to an ear, nose, and throat surgeon, who gave laser treatment to the gingiva on three occasions. There was some response, but the symptoms recurred within a year, and she was then referred for a third opinion to an oral medicine department. By this time she had bleeding gums for three years; her dentures no longer fitted and caused profuse bleeding, as did any minor oral trauma. She could not eat and was losing weight. She had also had epistaxis and nasal obstruction for two years. She was taking only sulphasalazine and vitamin supplements.

Oral examination showed florid lesions affecting the whole of her upper and lower alveolar ridges with some extension into the buccal mucosa in the upper right premolar region. The tissue was red, hyperplastic, and granulomatous and covered with petechiae (fig 1). The appearances resembled a strawberry. She had similar lesions in her nose. The results of the rest of the physical examination were unremarkable, with no clinical evidence that the eyes, skin, joints, genitals, or kidneys were affected. A deep biopsy specimen was taken from the right buccal mucosa. Histology showed microabscesses with giant cells and granulomas. There was a granulomatous leucocytoclastic vasculitis with perivascular lymphocytes and polymorphs. Wegener's

FIG 1—Lower alveolar ridge at time of diagnosis showing hyperplastic granulomatous strawberry-like gingiva. Both ridges were affected and extremely painful

granulomatosis was diagnosed, and she was referred to a nephrologist for initiation and supervision of immunosuppressive treatment. Further investigation showed a normal chest radiograph and normal renal function (serum creatinine concentration 90 $\mu\text{mol/l}$). Urine testing for blood and protein gave negative results. Concentrations of C reactive protein were not raised, and indirect immunofluorescence for antibody to neutrophil cytoplasm gave negative results.

She was treated with oral enteric coated prednisolone 30 mg and cyclophosphamide 150 mg daily. Within two weeks she had less pain and bleeding and was able to eat without discomfort. After three months all her intraoral lesions had cleared and she was able to wear a new denture (fig 2). After 18 months treatment was withdrawn, and there has been no recurrence.

Discussion

Until the introduction of immunosuppressive treatment most patients with Wegener's granulomatosis died of their disease.

FIG 2—Lower alveolar ridge six months after treatment showing normal mucosa taken as a mirror shot. Both ridges were free of lesions

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BMJ 1994;309:111-2

Wegener originally described a systemic granulomatous vasculitis of the small vessels that most typically affected the upper and lower airways and the kidneys.¹ In its characteristic form it is associated with the presence of circulating autoantibodies to the cytoplasm of neutrophils, these antibodies showing a specific cytoplasmic staining pattern on indirect immunofluorescence.²

Wegener described oral ulceration at necropsy in most of his original cases, but he regarded it as a late manifestation of the disease. Oral ulceration is also one of the diagnostic criteria for Wegener's granulomatosis defined by the American College of Rheumatology,³ although oral mucosal lesions were a presenting feature in only 5% of patients in a recent study.⁴ Though oral ulceration often occurs late in the disease, hyperplastic gingivitis is thought to be an early feature, and a series of biopsies may be required to obtain diagnostic tissue.⁵ In our case a biopsy specimen from adjacent buccal mucosa was needed.

Our case is typical of patients with Wegener's granulomatosis who present with localised disease. Diagnostic problems arise not only through difficulty of histological interpretation but also because of the lack of characteristic clinical features of systemic vasculitis and unreliable serological results. Autoantibodies to neutrophil cytoplasm are characteristic of the extensive forms of the disease but are often absent in localised Wegener's granulomatosis. In our case the presence of antibody to neutrophil cytoplasm would have needed careful evaluation because the perinuclear form of the antibody may be present in ulcerative colitis.⁶

Early diagnosis of localised Wegener's granulomatosis is clinically important not only for the effective treatment of the presenting problem but also because the disease may unpredictably transform into fulminant systemic vasculitis. This may be life threatening unless treated early, affecting the lungs

and causing irreversible renal failure. Cyclophosphamide, as well as prednisolone, is required to treat localised as well as systemic Wegener's granulomatosis. Response to treatment is usually rapid and complete, and the prognosis is good, as exemplified in this case.

A training in both dentistry and medicine gives the oral physician a unique understanding of the mouth and the effect systemic diseases may have on its tissues. Unfortunately, it remains a hidden specialty mainly confined to academic departments in dental schools. Oral and maxillofacial surgeons who have received some training in this subject are, however, represented in most district hospitals. Prompt referral to the correct specialist can lead not only to earlier diagnosis but also to prompt management. Few patients need to be admitted to hospital as most of the investigations can be done on an outpatient basis. The most common investigation is biopsy under local anaesthesia. This enables oral physicians to decide whether the lesions represent a local disease—be it benign or malignant—or part of a systemic disease that presents initially with oral problems alone.

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(Accepted 10 January 1994)

WAY WITH WORDS

Apostrophising

A small epidemic of 's disease broke out last year when plural words on posters in public places were subjected to inappropriate apostrophising. One chronic case of abuse lasting three months without anyone noticing was recently diagnosed by a customer: *Cheque book request's*. The result was instant cure (removal of notice) and an apology by the bank for its illiteracy.

Apostrophes have two functions. The first is a straightforward way of denoting the possessive case, as in *John's asthma*, by the use of 's. With plural nouns the convention is to use an apostrophe only—*drinkers' families* (in this case *families of drinkers* might be more elegant), while proper nouns are graced by an additional s—*the history of Pepys's bladder stone*. . . . As a pedantic medical student I was upset because our notepaper was headed *St Thomas' Hospital*, but I believe this grave error has since been rectified.

A more serious confusion arises through the apostrophe's second use—to replace a missing letter. Although we constantly use words like *isn't*, *can't*, *there's*, we are probably less familiar with this convention than our forebears. Except, that is, for the dwindling minority brought up on the Bible and Shakespeare: "Thou speak'st like a physician, Helicanus/Who minister'st a potion unto me/that would'st tremble to receive thyself." Perhaps *it's* this lack which leads to the infuriating and common habit of using an apostrophe for the possessive pronoun *its*. Strangely you don't see many *her's* but when I read "This method has not yet reached *it's* full potential" I reach for

my blue pencil to get my own back by changing any *his* to *hi's* or *his's*.

A final example of the pernicious irresistibility of the apostrophe is its attachment to things like dates and abbreviations. We read, for instance, that "in the 1990's increasing numbers of GP's became *fundholder's*." Quite apart from the dubious habit of abbreviating our general practitioner colleagues, all three examples are wrong.

Perhaps a recent suggestion that the apostrophe be abolished has more merit than we reactionaries are prepared to concede.—ALEX PATON, retired consultant physician, Oxfordshire

This is the first of an occasional series of fillers on words, their uses, and misuses by Alex Paton. His first contribution deals with apostrophes and highlights the misuse of "it's." It is worth noting, however, that the misuse is not totally illogical and was common at the end of the eighteenth century. The first editions of Wordsworth's *An Evening Walk* (1793) and of Coleridge's *Frost at Midnight* (1798) consistently used this form—"The frost performs it's secret ministry." Wordsworth took a cavalier approach to punctuation. In 1800 he sent manuscripts of four poems to Humphrey Davy, saying, "You would greatly oblige me by looking over the enclosed poems and correcting anything you may find amiss in the punctuation a business at which I am ashamed to say I am no adept."

Notwithstanding Dr Paton's last sentence we will continue to try to correct the use of apostrophes and hope that this piece—and the rest of the series—will help our authors to make our job easier.