

THE JOURNAL devotes this section to comment by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Association. Your participation in this section is invited.

Dental treatment in the Third World

□ For diseases of nutritional deficiency and infections, Third World populations have morbidity and mortality rates greater, often far greater, than rates in Western populations. But in frequency and severity of dental caries, Third World populations, which are largely rural, almost invariably have far lower rates. With urbanization, however, there is deterioration in the health of teeth.

In studies on series of South African black adolescents in villages in Eastern Transvaal, from one to two thirds were found to be free from caries (mean DMFT, 1.0 to 2.0).¹ Understandably, DMFT scores are higher in older age groups. Recently, also in villages in Eastern Transvaal, 560 black rural mothers were examined to learn the effect of age and parity on DMFT scores. In the 25- to 34-year-old group, composed of 201 mothers, 11% were free from caries; the mean DMFT was 6.6. This low score may be compared with the figure of 10.0 for Japanese mothers² and 18.0 for British mothers³ of the same age, and 19.3 for Australian mothers of 15 to 35 years attending an antenatal clinic.⁴ In black mothers, of the relatively few teeth affected, roughly a third were missing; the remainder were decayed. Only one of the 560 black mothers examined had evidence of filled teeth. Although this negligible degree of restorative attention is certainly regrettable, even in a Western population, namely, a series of 128 low-income pregnant women aged 15 to 34 years studied in Jackson, Miss, "fillings were almost nonexistent in this group of women."⁵

Among the South African black mothers, parity appeared to have little influence. In the 25- to 34-year-old group, two groups of mothers, those who had one to two children and those

who had six to ten children, had mean DMFT values of 6.2 and 6.9, respectively. Interestingly, of 51 elderly mothers aged 60 to 95 years, whose average number of pregnancies was 6.6, mean DMFT was 10.2. Four subjects (8%) were edentulous; in a Norwegian population, the corresponding proportion was 87%.⁶ Of these older women, 10% had a DMFT of three or less. The situation described prevails in a population who still have a traditional diet, that is, high in fiber foods, low in calcium, and high in phosphorus. Level of sugar intake (which is increasing) appeared to have little influence on caries scores, as was also noticed in the series of adolescents studied.¹

What is the future of dental treatment in such populations? In rural areas, the huge numbers of blacks, the limited dental facilities available, and, of far greater moment, the cost of treatment (compared with wages earned) almost totally preclude a meaningful amelioration of the caries treatment problem in affected adults.⁷ In most African countries with their limited budgets for public health (apart from provision of medical services), high priorities are accorded to the combating of parasitic diseases, such as malaria, and infectious diseases, such as gastroenteritis and tuberculosis. Hence, less life-threatening disorders and diseases receive less attention.

Under the circumstances now prevailing, what preventive measures should be encouraged in developing populations, especially among rural dwellers? There should be two major thrusts. First, through school posters and other media, strong emphasis must be placed on the need for regular cleaning of teeth to improve gingival health; this in itself is an enormous problem with most African adults.⁸ Second, where available, the use of fluoridated toothpaste must be urged

because fluoridation of water supply is entirely out of the question. In South Africa, attempts are being made to implement both these approaches for the millions of rural dwellers in Third World populations, we can perceive no other pragmatic remedial measures.

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Vitamin C enamel loss

□ In recent years, vitamin C has achieved food fad status, and many people take as much as 3 or 4 gm a day. For some reason, certain people chew the tablets rather than swallow them. The ascorbic acid is strong enough to dissolve the enamel. After a short period, much of the occlusal enamel is lost, and the underlying dentin

comes cupped out. This is frequently preceded by a period of sensitivity when the dentin-enamel junction is reached; but after further wear, either the sensitivity disappears or hypersensitive dentin develops.

The lesions are usually on the molars. When pronounced, the dentin is depressed, and the enamel stands approximately 1 or 2 mm above the hollowed out dentin. Amalgam fillings, if present, also remain raised above the dentin.

The treatment is to stop the habit and restore the worn areas with a glass ionomer cement or metallic restoration.

Although this condition is not an everyday occurrence, to know that it exists can aid in the diagnosis of odd-looking noncarious dental lesions.

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Referred pain

□ I wish to comment on "Orofacial pain of cardiac origin" by Drs. Graham and Schinbeckler (January 1982).

The case report was interesting and unquestionably was an example of pain referral from the heart to the orofacial region. The explanation offered by the authors, however, is simplistic and ignores the neuroanatomic basis for pain referral.

If the explanation presented were accurate, pain would spread or radiate from one dermatomal segment to its adjacent segment. The patient would probably complain of pain starting in the cardiac region, which would spread upward along the neck and possibly the limb to the face. In addition, if the theory of the authors were correct, cases of pain referral from the heart could extend inferiorly and involve the toes just as easily as the jaws. No report of cardiac pain referral to the toe is available in the literature.

The vagus nerve and the sympathetic nervous system provide the visceral afferents from the heart. The somatic afferent (pain) impulses via the vagus nerve terminate in the spinal five tract and nucleus. The somatic afferents for pain from the fifth cranial nerve terminate in the spinal five tract and nucleus. The vagal visceral afferents (pain) from the heart terminate in the nucleus and tractus solitarius. This nucleus lies in close proximity to the

spinal five tract and nucleus. The reticular formation occupies the area between these practically adjacent nuclei. The reticular formation provides a plentiful relay system with many internuncial fibers that interconnect between these nuclei. The pain fibers are then relayed via the ventral (or dorsal) trigeminal tract to the ventral posterior medial nucleus (NVPM) of the thalamus. Relays from this nucleus radiate through the internal capsule for interpretation by the post-central gyrus. Because of this close approximation of the central connections of cranial nerves five and ten, the referral by interpretation of the cerebral cortex may be explained by either the theory of projection convergence or projection facilitation.

Pain caused by ischemia of the heart is carried primarily by sympathetic visceral afferents. These terminate in the dorsal horn (Lissauer's tract and the substantia gelatinosa). Second order neurones enter the lateral spinothalamic tract and terminate in the ventral posterior lateral nucleus (NVPL) of the thalamus. The NVPL and NVPM are adjacent, and some interconnections are not only possible, but highly likely. In addition, many spinothalamic fibers leave the tract on its ascent to the thalamus and enter the reticular formation. Thereby the mechanism explained previously could apply.

It is true that the explanation offered here is theoretical. It certainly appears more likely, in the case cited, that well-established and documented neuroanatomic pathways and connections form the basis for the pain referral described rather than the overly simplistic view that one dermatomal segment is adjacent to another.

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Prescription of chlorhexidine

□ In *Letters to the Editor* (June 1982), Dr. Edgar Mitchell, Secretary, Council on Dental Therapeutics, comments that "A dentist can prescribe it (chlorhexidine) only for use by patients as a handwash agent."

This statement is in error; a dentist can prescribe any drug as long as it is being prescribed as part of his dental practice, as defined by the respective state dental laws.

A dentist prescribing chlorhexidine

for use by patients as a hand agent would have difficulty justifying this as part of his dental practice would be breaking the law.

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□ Comment: An interesting point made by Dr. Mellion... As Dr. Mellion suggests, the drugs or products that a dentist can prescribe are defined by the individual states' dental practices. These laws generally outline the dentist's right to prescribe or use drugs that are appropriate for the dental treatment of patients or for use in the course of dental practice. The availability of drugs currently available for use by dentists in treating their patients is extensive. They range from hand sanitizers such as the one containing chlorhexidine through general anesthesia to nutritional supplements that can provide total dietary replacement. The key in determining which of the drugs currently available are appropriate for use with patients rests in the dentist's professional judgment on the needs of the individual patient or situation.

It is my opinion that few state dental boards would seriously question prescribing chlorhexidine hand wash to dental patients if the dentist had good reason to prescribe it. However, a much better example could have been used. A dentist's ability to order chlorhexidine hand wash for use in the dental operating room before and after treatment of patients

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□ The FDA Drug Bulletin (April 1982) "Use of Approved Drugs for Unlabeled Indications" leads us to conclude that Dr. Mitchell's comments are contrary to the FDA position on using chlorhexidine in the mouth for the treatment of radiation caries. The article states that "The FD & C Act (Federal Food, Drug, and Cosmetic Act) does not... limit the manner in which a physician (dentist) may use an approved drug."

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Fehlende Seiten = Reklame

Missing pages = advertisements

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