ARIZONA: LEGISLATURE vs. DENTAL BOARD?

The following letter was sent from the Arizona Legislature to the Arizona Board of Dental Examiners on 27 January 1999.

Dear Members of the Board of Dental Examiners:

We are writing to voice our concern about recent Board actions concerning consumer access to mercury-free dentistry and a well-publicized Board enforcement action against a holistic dentist. We are not taking sides in any Board proceeding. But we feel we have the right to ensure that the Board complies with Arizona laws and that its procedures are fair.

Our concerns fall into four areas: compliance with Arizona statutes, fulfilling promises made to the legislature, allegations of unfair Board procedures, and the upcoming Sunset Review.

Statutes

Last year we enacted a "regulatory Bill of Rights." See ARS 41-1001.01 and amendment to ARS 41-1030. Plainly, the goal of that reform, is to ensure that state agencies write their regulations through rule making, not adopt new standards through their enforcement actions. A licensee must first be apprised what is legal and what is not. Then if he or she violates the rules, you can surely take enforcement action. As we understand the pending decision against Dr. Terry Lee, Arizona's most outspoken mercury-free dentist, you are doing the opposite. Standards are set for mercury amalgam removal and related issues without any pre-existing rules. Another important law requiring accountability is the Administrative Procedures Act. It permits any citizen to file a petition to a Board and that Board must respond in writing within 60 days (ARS 4 1-1033). During 1998 the Board received petitions from Representative Debra Bingham, the Holistic Dentists Association, and from Consumers for Dental Choice, asking for rules on mercury-free dentistry or on holistic dentistry in general. As we understand it, in the latter two cases the President of the Board simply announced a negative decision, and nothing in writing was forthcoming. If this is true, you appear to have ignored the requirement to respond in writing. We are also told that in all three cases there was an announced Board decision without a vote. If this is true, you may have violated the Open Meetings Act, which requires a public vote on all Board decisions.

Finally, the Dental Practices Act requires that you write rules defining the practice of dentistry (ARS 32-1207). All dentists would benefit by such rules.

We take our role as lawmakers seriously and request that you take your role equally seriously by complying with the laws enacted by the Legislature. Could you reply by assuring us you are complying with the Regulatory Bill of Rights, the Administrative Procedures Act, the Open Meetings Act, and the Dental Practices Act?

Promises made to the Legislature

Arizona law does not choose sides between traditional and holistic dentistry, so consumers have the right of access to holistic as well as traditional services. For several years you have assured various committees and individual legis-
lators that consumers have full access to mercury-free dentistry. Yet the proposed Standards in the Terry Lee matter require dentists to favor mercury amalgams in their communications with patients. We are alarmed that over 100 physicians have written you expressing opposition to these standards because they will harm the efforts of physicians to treat patients with mercury toxicity. We do not expect the Board of Dentistry to take sides in the mercury amalgam debate but apparently over 100 physicians believe you have.

In 1994, you were asked by legislators to adopt disciplinary guidelines so there would be fairness and predictability in the punishments you mete out. Logically, such guidelines will ensure that similar punishments will be given to those who act similarly. But we are told that on November 13, 1998, you voted unanimously not to apply those guidelines to Dr. Lee. The Auditor General has criticized the Board of Medicine for doing this very thing - ignoring disciplinary guidelines. Please let us know if you are complying with or disregarding your disciplinary guidelines.

Fair procedures

Several serious allegations about the procedures in the Lee case have been raised, allegations that have caused concern with constituents. We do not want to suggest the allegations are true or false. We would like you to tell us the answer.

It has been alleged that: (1) Dr. Lee’s lawyer became mentally ill during the trial and committed suicide right afterwards, but the Board will not have a hearing to determine if Dr. Lee had adequate representation; (2) the former Board President asked that the Board file charges because he disagreed with Dr. Lee’s philosophy of dentistry; (3) a Board member made comments about the merit of this case in the Arizona Republic but has not recused himself; (4) the current Board President testified against Dr. Lee, remained on the case during the preliminary stage, then when it came time to vote, sat at a special table facing Board members and conferred with staff instead of fully recusing himself; (5) not a single patient has asked the Board to take his license, but the Board’s prosecutor has asked for it anyway.

Sunset Review

At the end of 1999, this Board is subject to Sunset Review. We would hope that by that time the concerns we have expressed have been fully resolved. Re-authorization of your agency will be much more likely if we are assured you are complying with state statutes and keeping promises made to this body.

[Document signed by sixteen members of the Arizona State Legislature.]

BIO-PROBE COMMENT: The Arizona Board of Dental Examiners had filed charges against the mercury-free dentist in early 1998, claiming that nine patients complained and were injured. Actually, no patients were injured, excepting one case of lip paresthesia following surgery (a common occurrence in dentistry). In fact, two of the supposed injured patients actually testified FOR the mercury-free dentist. Another testified that she never even wrote a complaint, but that her employer-dentist forced her to sign the letter, then fired her when she went public.

Newspaper coverage has become quite extensive and Arizona citizens have rallied to the cause of the mercury-free dentist, engendering the substantial interest of the Legislature in this case. In spite of all of this, the Arizona Dental Board clearly intended to revoke the license of the mercury-free dentist.

There are several vital points to the letter from the Arizona Legislature that should not be ignored by the Arizona Dental Board or, for that matter, the dental board of any state: 1) The lack or pre-existing rules governing mercury-free dentistry. 2) The obligation of the dental board to set standards by rule making, not by enforcement actions. 3) The requirement to inform dentists in advance as to which actions are legal and which are not. 4) The requirement, by law, for the board to provide written rules defining the practice of dentistry in the state. This all adds up to arbitrary conduct by the dental board outside of the law. It would be wise and valuable for all mercury-free dentists to investigate the Dental Practice Acts in their own states as to the application of these key points.

Late breaking news! On Friday, 19 February 1999, the Arizona Dental Board met to take action on the case. The dentist was represented by attorneys Charles G. Brown and James S. Turner of the Washington, DC law firm of Swankin & Turner (representatives for the Consumers for Dental Choice organization). The Board failed to engender enough votes to revoke, or even suspend, the license of the mercury-free dentist! All they were able to accomplish was a censure with probation. The dentist is free to continue his practice. This event represents a clear victory for patient and dentist choice for mercury-free dentistry against a determined dental board. It is an example of what can be accomplished by a determined dentist, with support from the public and legal counsel that is familiar with the amalgam issue.

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DENTAL AMALGAM SYMPOSIUM IN EUROPE

Press release

Dental Amalgams and Heavy Metals: What Risks for Health and the Environment?
Colloquium Organised by the Green Group in the European Parliament - 7 and 8 January 1999
European Parliament - Luxembourg
Brussels, 19 January 1999

The international colloquium held on 7 and 8 January in the European Parliament in Luxembourg on the subject of dental amalgams and heavy metals was a definite success: more than 250 people participated in the event including high level Commission staff, representatives of national governments, dentists, general practitioners, as well as of patient associations from numerous European countries. The European media, which was widely represented also, showed an active interest in the event. For a long time heavy metals - cadmium, mercury, lead - have been known to be particularly toxic. Their capacity to accumulate in food chains makes their dissemination in the environment fearsome. The mercury poisoning in Minamata in 1954 and Iraq in 1972 are tragically famous in this regard.

For more than 150 years, dentistry has utilized silver amalgam as a material for filling teeth. This amalgam contains approximately 50% of metal mercury. Since several years, medical research has shown that this mercury is released in the oral cavity in the form of a vapour and is thus susceptible to being absorbed in the different human tissues.

The colloquium in Luxembourg allowed a confrontation between scientists, practitioners, patients and those responsible for public health concerning the magnitude of the health problem which individuals with dental amalgams might face. If, actually the re-release of mercury in the body (analyses confirm this) is not contested, opinions diverge on the risks which this poses for the body.

The tendency of the associations of doctor-dentists and of their representatives in the ad hoc expert groups, is to relativise the toxicological and immunological impact of low doses of mercury. However, numerous studies presented in Luxembourg confirm the concerns increasingly voiced:

- A not insignificant number of people are likely to suffer from the presence of amalgams in their mouths (allergic reactions, problems in the central nervous system, disruption of the immune and hormonal systems);
- Foetuses and young children are particularly at risk, mercury crosses the placenta and accumulates in the organs of the child;
- The insidious chronic effects on the cells, membranes and enzymes in the organism are difficult to quantify and necessitate recourse to tests and specific analyses in most instances neglected by official bodies;
- The problems of electro-galvanism provoked as a result of the presence of several metals in the mouth can be aggravating factors.

In addition, emphasis was placed on the insufficient amount of data available on alternatives to amalgams. Other dental materials, metal or plastic, can lead to phenomenon and even auto-immune reactions of which the implied negative effects do not seem to be comparable, in their magnitude and frequency, to those of amalgams.

The organisers of the colloquium consider on the basis of the various presentations made in Luxembourg and the available scientific literature that political initiatives with a view to a revision of current practices are necessary as much on a national level as on a European level and that on the basis of the precautionary principle.

Initiatives of this kind have already been taken, notably in Sweden and Germany. In 1998 the Swedish government decided to stop the reimbursement by the social security service of the use of amalgams as fillings with effect from 1999, a total ban is scheduled for 2001. In 1997, a consensus was reached in Germany for a case-by-case approach leading to an official contra-indication of the use of amalgams in children of less than six years of age, pregnant or breast-feeding women and patients with kidney problems.

The organisers of the colloquium pleaded for a programmed elimination of the use of dental amalgams given that the demonstrated risks are sufficiently severe for the population in general. The current scientific uncertainty cannot serve as a justification for inaction. They consider that as a first step very strict contra-indications should be promulgated by the health authorities:

**Technical contra-indications:**
* Strict limitation on the number of mercury fillings in the mouth.
* No mercury fillings in direct contact with other metallic constructions in the mouth (prevention of electrolysis).
* No mercury for filling the roots of teeth or for the fitting of metal crowns.

**Precautionary contra-indications**
* Children and young people of less than 16 years.
* Pregnant women and women of child-bearing age.
* Individuals with renal problems.
* Individuals with a genetic disposition for diseases of the auto-immune system.
The organisers launched an appeal to the same authorities in order to deal effectively with the problems that those individuals who suffer from metal poisoning have to contend with and who need to have their dental amalgams removed and to undergo an efficient detoxification treatment.

In addition, the organisers question the approach of the European Commission which is mainly motivated by concerns relating to the free movements of medical devices, amongst which are dental amalgams. This is why the ad hoc group which has been commissioned by DG III to report on the problems of amalgams does not include either a toxicologist or an immunologist and why the precautionary principle has not been taken into consideration in the work of this group.

The organisers further regret the absence of representatives of DG XI (Environment) from the colloquium, given that the environmental pollution from mercury waste from the dental industry is by no means insignificant and boosts the credibility of the option to eliminate amalgams. They, therefore, demand the widening of the scope of the report being prepared by DG III and a revision of Directive 93/42/EEC in a way to introduce more rigorous criteria for the commercial introduction of dental materials.

Long term tests of biocompatibility should be made obligatory to exclude carcinogenic, neurological, mutagenic, teratogenic, allergising and autoimmunitory effects.

Finally, they favour an intensified research with a view to making alternatives available which are as biocompatible as possible and which present a satisfactory price/quality ratio.

** Certain scientists insisted in particular on the fact that simple blood or urine analyses are not suited to evidence chronic mercury poisoning and that it is necessary amongst other things to make use of urine analysis after chelation. These scientists have also brought into question the tests currently used in the study of allergies ("Epikutantest") often giving false negative results, while the new immunological tests of lymphocytary transformation (for example Melisa) allow for detection in a much more precise way of immunological sensitivity to mercury, heavy metals and other metals used in dentistry. At the level of the analysis of the neurotoxic effects of mercury amalgams, these scientists have also insisted on the importance of using a range of behavioural toxicological tests as well as SPECT imaging which analyzes cerebral perfusion or the state of the receptors of the cerebral mainstem.

On behalf of the Green Group in the European Parliament
Paul Lannoye, Member of the European Parliament
Vice-President of the European Parliament Committee on the Environment, Public Health and Consumer Protection

In collaboration with
Jean Huss, Member of the Luxembourg Chamber
Member of the Committee on Public Health of the Luxembourg Parliament

For more information, please contact Mrs Olga Pisano: 00.352.430024580.

BIO-PROBE COMMENT: Because of the formation of the European Union (EU), the actions of the governments of some European countries has created a serious controversy over regulation of the use of dental amalgam in EU countries. In particular, the governments of Germany and Sweden have acted to limit the use of mercury fillings. This has resulted in the requirement of listing of contraindications and adverse effect warnings in the packaging of amalgam by the manufacturers.

Several EU countries are attempting to negate the packaging requirements. Fortunately, Germany and Sweden are standing fast and, indeed, trying to influence the other EU countries to bring their amalgam regulation standards up to theirs. In Europe, the "Green" political parties are quite influential in the various parliaments, particularly in environmental issues.

The following report is an example of the stout positions of Germany and Sweden on amalgam.

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**GERMAN NATIONAL TV ADDRESSES AMALGAM**

On Wednesday, 20 January 1999 the television station of the national government of Germany (ZDF-TV) broadcast a program on dental amalgam to all European Union countries. The program featured presentations from Dr. Fritz L. Lorscheider (Canada), Dr. Gustav Drasch (Germany) and Professor Wasserman (Germany). Dr. Lorscheider presented the scientific findings on amalgam mercury and Professor Wasserman pointed out that the issue has not been treated seriously by the dental profession, thereby misleading the public. Professor Schmaltz, representing the German Association of Dentists (BZAK), answered that the mercury released from amalgam fillings is too little to cause any harm.

The program noted the decision of the Swedish government to discontinue paying for the placement
of mercury amalgam fillings (effective 1 January 1999). It also emphasized that the latest research supports the suspicion that amalgam mercury causes harm to the immune system of human subjects. The program concluded with a statement from Mrs. Fischer, of the German Health Ministry, that if further evidence of harm to the human immune system appears, she will move to discontinue the use of dental amalgam.

** OXFORD UNIVERSITY ADDRESSES AMALGAM **

Each year, the University of Oxford addresses a current controversial issue in a program entitled the “John Rayne Memorial Lecture.” The subject this year is “Amalgam Day”, being held at the John Radcliffe Hospital on 27 May 1999.

Speaking against amalgam will be Dr. Fritz L. Lorscheider, Professor of Physiology & Biophysics, Faculty of Medicine, University of Calgary, Alberta, Canada. Speaking for amalgam will be Professor B. M. Eley, Periodontal Department, King’s College, London, England.

The summary of Professor Lorscheider’s presentation follows: “Human and animal studies over the past 15 years reveal that mercury vapour is continuously released from amalgam tooth fillings and is absorbed into adult, neonatal, and foetal body tissues. Amalgam is the major contributor to mercury body burden in the general population, and biomedical research has focused on the potential for such mercury exposure to affect function of a variety of organ systems. Recent investigations using cells, animals, and humans demonstrate evidence that chronic low level exposure to mercury vapour (including occupational exposure of dental personnel) will alter brain cell chemistry and neurobehavior. Examples of current and future research directions on this issue will be outlined.

Historically, this program from the University of Oxford is highly esteemed and receives widespread attention throughout the United Kingdom.

** S C I E N C E **

Alzheimer’s Disease, Dental Amalgam and Dental Mercury.

Saxe, SR; Wekstein, MW; Kryscio, RJ; Henry, RG; Cornett, CR; Snowden, DA; Grant, FT; Schmitt, FA; Donegan, SJ; Wekstein, DR; Ehmann, WD; Markesbery, WR.


** ABSTRACT: ** BACKGROUND: Mercury, or Hg, is a neurotoxin that has been speculated to play a role in the pathogenesis of Alzheimer’s disease, or AD. Dental amalgam releases low levels of Hg vapor and is a potential source of Hg for a large segment of the adult population. METHODS: The authors studied 68 subjects with AD and 33 control subjects without AD to determine Hg levels in multiple brain regions at autopsy and to ascertain the subjects’ dental amalgam status and history. The subjects were from central Kentucky and Elm Grove, Wis. The authors conducted dental amalgam assessments during the lives of the majority of subjects and in some subjects at the time of autopsy only. The authors also determined three dental amalgam index scores - Event (placement, repair or removal of amalgam), Location and Time In Mouth - in addition to the numbers of and surface area of occlusal amalgam restorations. The authors determined Hg levels in multiple brain regions and performed full neuropathologic evaluations to confirm the normal status of the brain or the presence of AD.

RESULTS: The authors found no significant association of AD with the number, surface area or history of having dental amalgam restorations. They also found no statistically significant differences in brain Hg level between subjects with AD and control subjects. CONCLUSIONS: Hg in dental amalgam restorations does not appear to be a neurotoxic factor in the pathogenesis of AD. The authors found that brain Hg levels are not associated with dental amalgam, either from existing amalgam restorations or according to subjects’ dental amalgam restoration history.

CLINICAL IMPLICATIONS: Dental amalgam restorations, regardless of number, occlusal surface area or time, do not relate to brain Hg levels.

BIO-PROBE COMMENT: This paper has already been widely publicized through a press release on 8 February 1999. The study, and its press release claim: 1) Dental amalgam mercury is not taken up by the brain, and; 2) mercury does not cause Alzheimer’s type brain damage.

These conclusions stand alone and are contradicted by numerous published studies. Further, AD is a neurologic disorder, not in the province of dental education and training. Yet, the lead author and three other authors of this study are dentists, and publication of the study was in a dental trade association journal, not an appropriate medical journal. In view of these startling and unique conclusions, a thorough evaluation of this paper is in progress. Further information will be provided in a future issue of this newsletter.

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Dental and Cardiac Risk Factors for Infective Endocarditis: A Population Based, Case Control Study.
ABSTRACT: Although antibiotic prophylaxis against infective endocarditis is recommended, the true risk factors for infective endocarditis are unclear. OBJECTIVE: To quantitate the risk for endocarditis from dental treatment and cardiac abnormalities. DESIGN: Population based, case control study. SETTING: 54 hospitals in the Philadelphia area. PATIENTS: Persons with community acquired infective endocarditis not associated with intravenous drug use were compared with community residents, matched by age, sex, and neighborhood of residence. MEASUREMENTS: Information on demographic characteristics, host risk factors, and dental treatment was obtained from structured telephone interviews, dental records, and medical records.

RESULTS: During the preceding 3 months, dental treatment was no more frequent among case patients than controls (adjusted odds ratio, 0.8 [95% CI, 0.4 to 1.5]). Of 273 case patients, 104 (38%) knew of previous cardiac lesions compared with 17 controls (6%) (adjusted odds ratio, 16.7 [CI, 7.4 to 37.4]). Case patients more often had a history of mitral valve prolapse (adjusted odds ratio 19.4 [CI, 6.4 to 58.4]), congenital heart disease (adjusted odds ratio, 6.7 [CI, 2.3 to 19.4]), cardiac valvular surgery (adjusted odds ratio, 74.6 [CI, 12.5 to 447]), rheumatic fever (adjusted odds ratio, 13.4 [CI, 4.5 to 39.5]), and heart murmur without other known cardiac abnormalities (adjusted odds ratio, 4.2 [CI, 2.0 to 8.9]). Among case patients with known cardiac lesions - the target of prophylaxis - dental therapy was significantly (P = 0.03) less common than among controls (adjusted odds ratio, 0.2 [CI, 0.04 to 0.7] over 3 months). Few participants received prophylactic antibiotics.

CONCLUSIONS: Dental treatment does not seem to be a risk factor for infective endocarditis, even in patients with valve abnormalities, but cardiac valvular abnormalities are strong risk factors. Few cases of infective endocarditis would be preventable with antibiotic prophylaxis, even with 100% effectiveness assumed. Current policies for prophylaxis should be reconsidered.

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A New Causal Model of Dental Diseases Associated With Endocarditis.

Drangsholt, MT.

ABSTRACT: Infective endocarditis (IE) is a serious disease that is associated with dental diseases and treatment. The objective of this study was to summarize the epidemiological information about IE and reevaluate previous causal models in light of this evidence. The world biomedical literature was searched from 1930 to 1996 for descriptive and analytic epidemiological studies of IE. Multiple searching strategies were performed on 9 databases, including MEDLINE, CATLINE, and WORLDCAT.

Results show that: 1) the incidence of IE varies between 0.70 to 6.8 per 100,000 person-years; 2) the incidence of IE increases 20 fold with advancing age; 3) over 50% of all IE cases are not associated with either an obvious procedural or infections event 3 months prior to developing symptoms; 4) about 8% of all IE cases are associated with periodontal or dental disease without a dental procedure; 5) the time from the diagnosis of heart valve deformities to the development of IE approaches 20 years; 6) the median time from identifiable procedures to the onset of IE symptoms is about 2 to 4 weeks; 7) the risk of IE after a dental procedure is probably in the range of 1 per 3,000 to 5,000 procedures; and 8) over 80% of all IE cases are acquired in the community, and the bacteria are part of the host's endogenous flora.

The synthesis of these data demonstrates that IE is a disorder with the epidemiological picture of a chronic disease such as cancer, instead of an acute infectious disease, with a long latent period and possibly several definable intermediates or stages. A new causal model is proposed that includes early bacteremias that may "prime" the endothelial surface of the heart valves over many years, and a late bacteremia over days to weeks that allows adherence and colonization of the valve, resulting in the characteristic fulminant infection.

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Relationships Between Chronic Oral Infectious Diseases and Systemic Diseases.

Okuda, K; Ebihara, Y.

ABSTRACT: There are over 300 species of bacteria forming populations of several hundred billion in the human oral cavity. The number of bacteria reaches a thousand billion when the mouth is not sufficiently cleaned. Using saliva and gingival crevicular fluid as their main nutrients, these bacteria create their ecological niches on tooth surfaces, gingival crevices, saliva, dorsum linguae, and buccal and pharyngeal mucosa, threatening oral and systemic health. It is known that primary lesions of these chronic bacterial infections secondarily cause nephri-
tis, rheumatoid arthritis, and dermatitis. Further, it has been demonstrated in recent years that bacteria inhabiting the oral cavity can cause bacterial pneumonia and endocarditis and that the periodontal disease associated bacteria become causative agents for pregnancy troubles and are involved in blood circulation problems and coronary heart disease.

Dentistry reviewed the theme of World Health Day, Oral Health for a Healthy Life, in 1994. The 8020 campaign to promote tooth care is also becoming established in Japan; however, the authors emphasized that this achievement is not the goal of dental health care. In this article, we explain the bases supporting the concept that oral health care, primarily mouth cleaning, is important for not only oral disease but also a healthy life.

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Anaerobic Bacteremia and Fungemia in Patients Undergoing Endodontic Therapy: An Overview.
Debelian, GJ; Olsen, I; Tronstad, L.

**ABSTRACT:** Oral focal infection, a concept neglected for several decades, is a subject of controversy. Recent progress in classification and identification of oral microorganisms has renewed interest in focal infection. The aim of this study was to use phenotypic and genetic methods to trace microorganisms released into the bloodstream during and after endodontic treatment back to their presumed source - the root canal.

Microbiological samples were taken from the root canals of 26 patients with asymptomatic apical periodontitis of single rooted teeth. The blood of the patients was drawn during and 10 minutes after endodontic therapy. Microorganism in blood were collected after anaerobic lysis filtration and cultured anaerobically on blood agar plates. The phenotypic methods used for characterization and tracing of microorganisms in blood and root canals were: biochemical and antimicrobial susceptibility test, SDS-PAGE of whole cell soluble proteins, and gas chromatography of cellular fatty acids. Phenotypic data were verified by DNA restriction patterns and corresponding ribotypes of the root canal and blood isolates by using a computer assisted system from gel analysis.

All root canals contained anaerobic bacteria. The frequency of bacteremia varied from 31% to 54%. The microorganisms from the root canal and blood presented identical phenotype and genetic characteristics within the patients examined. These characteristics differed between patients. The present study demonstrated that endodontic treatment can be the cause of anaerobic bacteraemia and fungemia. The phenotypic and genetic methods used appeared valuable for tracing microorganisms in the blood back to their origin.

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Colonization of Dental Plaque: A Source of Nosocomial Infections in Intensive Care Unit Patients.
Fourrier, F; Duvivier, B; Boitigny, H; Roussel-Delvallez, M; Chopin, C.

**ABSTRACT:** OBJECTIVE: To study the dental status and colonization of dental plaque by aerobic pathogens and their relation with nosocomial infections in intensive care unit (ICU) patients. DESIGN: A prospective study in a medical ICU of a university affiliated hospital. PATIENTS: Consecutive patients admitted to the ICU during a 3 month period. INTERVENTIONS: Dental status was assessed by the same investigator using a score adapted from the “Caries - Absent - Occluded” (CAO) index (referred to in the U.S. as DMFT [Decayed - Missing - Filled Teeth] index). The amount of dental plaque on premolars was assessed using a semiquantitative score. Quantitative cultures of dental plaque, nasal secretions, tracheal aspirates, and urine were done at admission (day 0) and every fifth day until death or discharge. An additional study was done in eight patients to serially compare dental plaque, salivary, and tracheal aspirate cultures during a 2 week period.

MEASUREMENTS AND MAIN RESULTS: Fifty-seven patients were included in the main study. Due to the variability in their ICU stay, 29 patients could be examined on day 0 only (group A), 15 patients on days 0 and 5 (group B), and 13 patients on days 0, 5, and 10 (group C). The mean dental CAO score was 16 +/- 8 and did not change during the ICU stay. The dental plaque score was or = 1 in 70% of patients on day 0; or = 2 in 50% of patients on day 5; and or = 2 in 90% of patients on day 10. Dental plaque cultures were positive at 10(3) colony forming units/mL for aerobic pathogens in 23% of patients on day 0; 39% of patients on day 5; and 46% of patients on day 10. In groups B and C, mean dental plaque score and frequency of plaque colonization increased from days 0 to 5 and from days 5 to 10. A high bacterial concordance was found between dental plaque and tracheal aspirate cultures, and in the additional study, between salivary and dental plaque cultures. Twenty-one patients developed a nosocomial infection in the ICU. Dental plaque colonization on days 0 and 5 was significantly associated with the
occurrence of nosocomial pneumonia and bacteremia (sensitivity 0.77; specificity 0.96; positive predictive value 0.87; negative predictive value 0.91; relative risk 9.6). In six cases of nosocomial infection, the pathogen isolated from dental plaque was the first identified source of nosocomial infection.

CONCLUSIONS: The amount of dental plaque increased during the ICU stay. Colonization of dental plaque was either present on admission or acquired in 40% of patients. A positive dental plaque culture was significantly associated with subsequent nosocomial infections. Dental plaque colonization by aerobic pathogens might be a specific source of nosocomial infection in ICU patients.

BIO-PROBE COMMENT: The preceding series of abstracts clearly demonstrate the altering direction of dentistry towards admission that dental health and dental treatment can not be separated from systemic health. The day of the "tooth carpenter" dentist is rapidly coming to a close. The future of dentistry lies with education and training in Oral Medicine.

** FORUM **

IAOMT MID-YEAR MEETING

DATE: Friday-Saturday, 19-20 March 1999.
SITE: Las Vegas, Nevada.

HOTEL: Riviera Hotel, 2901 Las Vegas Boulevard, South; Las Vegas, NV. 89109. T: (702) 734-5110; F: (702) 794-9410. IAOMT rate: $95.00/night, single/double (plus 9% tax); $20.00 each additional.

MEETING REGISTRATION: IAOMT, P.O. Box 608531, Orlando, FL. 32860-8531. T: (407) 298-2450; F: (407) 298-3075. Members= $395.00; non-members= $495.00. Lunches on Friday and Saturday included for registrant and one additional (spouse/staff); $100.00 for each additional.

PROGRAM:

Friday: Clinical Applications.
8:30am-12:00pm: "Periodontal Standard Procedures." IAOMT Periodontal Therapy Committee; Dr. Thomas Baldwin, Chairman.
4:00-5:00pm: "Clinical Practice Orientation." Chairman Richard Chamin, DMD and IAOMT committee.
1:30-5:00pm: IAOMT Accreditation Program case history interviews: David Regiani, DDS and IAOMT Education Committee. [By appointment; candidates contact IAOMT Executive Director.]
5:00-6:30pm: IAOMT Business Meeting.

Saturday: Speakers.
Murray J. Vimy, DMD: "Never Have So Few Done So Much Harm to So Many."
Boyd E. Haley, Ph.D.: "Research Findings on Mercury Fillings, Devil's Teeth, and Cavitations."
J. C. Pendergrass, Ph.D.: "Gingival Crevicular Fluid: Components and Analysis."
David Quig, Ph.D.: "Enhancement of Mercury Elimination Via the Biliary/Fecal Route."
David C. Kennedy, DDS: "Health Effects of Ingested Fluoride."
James M. Love, JD: "Medico-Legal Considerations for Biological Dentistry."

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IAOMT 1999 ANNUAL MEETING

DATE: Friday-Saturday, 8-9 October 1999.
SITE: Atlanta, Georgia.

HOTEL: Hotel W (formerly Sheraton Perimeter Center Hotel and Suites Atlanta), 111 Perimeter Center West, Atlanta, GA 30346. T: (770) 396-6800; F: (770) 394-4805.

MEETING REGISTRATION: IAOMT, P.O. Box 608531, Orlando, FL. 32860-8531. T: (407) 298-2450; F: (407) 298-3075.

MEETING HOST: Dr. Ronald Dressler.
PROGRAM: Friday morning Clinical Theme: Cavitations. Saturday Speakers: Charles R. Cornett, PhD; Boyd E. Haley, PhD; J. Curt Pendergrass, PhD; Anne O. Summers, PhD; Murray J. Vimy, DMD.

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SITE: Denver, Colorado.

HOTEL: Sheraton Denver Tech Center; 7007 South Clinton, Englewood, CO. 80112. T: (303) 799-6200; F: (303) 792-5051. $79/night (single/double).

MEETING REGISTRATION: HDA; P.O. Box 5007, Durango, CO. 81301. T: (970) 259-1091.

Fees (after 05/01/99): Member: $350 ($425); Non-member: $450 ($525); Hygienist or assistant without dentist: $225 ($275); Spouse/Staff with dentist: $125 for first; $75 each additional.