

Clinical Realities

November 2004

IMPLANT NEWSLETTER FOR CLINICIANS

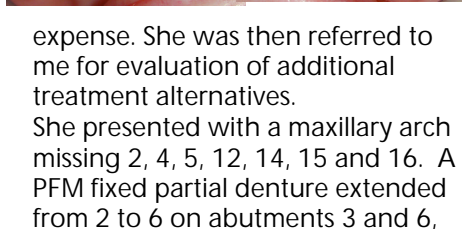
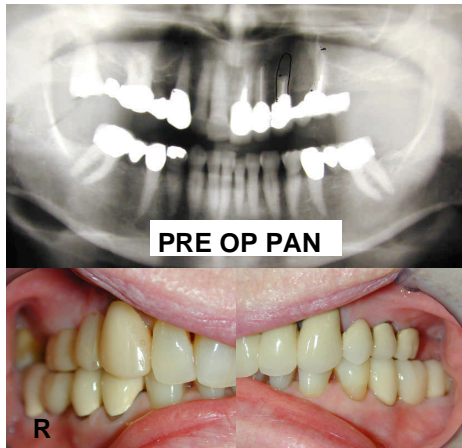
From the treatment records of Paul P. Binon DDS, MSD



PAUL BINON DDS

In this issue of *Clinical Realities*, the emphasis is on diagnosis and treatment planning. Most often there are multiple treatment options that can be presented to the patient to solve their needs.

The limitations are based on the clinical condition of the patient, the level of treatment they desire and the skill level of the clinician. Irrespective of finances, the patient has to be presented those options as it is their decision to make. There are many reasons to refer the patient to a specialist. Foremost is the still what is best for the patient.



expense. She was then referred to me for evaluation of additional treatment alternatives.

She presented with a maxillary arch missing 2, 4, 5, 12, 14, 15 and 16. A PFM fixed partial denture extended from 2 to 6 on abutments 3 and 6, replacing 2, 4/5. Teeth #7 and 8 were un-restored. A PFM fixed partial denture extended from 11 to 14, replacing 12 and 14. External root resorption was noted on #11 and the retainer on #13 had separated from the abutment. The bridge was failing due to marginal leakage, lack of support, mobility and probable fracture of the posterior abutment. Teeth #1 and 3 had 50% bone loss and furcal involvement, #6 had 40% bone loss, 7 and 8 were stable with minimal bone loss, abutments 9 and 10 were mobile due to occlusal overload, 11 had more than 50% root resorption and a questionable prognosis, and 13 had a thin slender root that was carious and possibly fractured, also with a very questionable prognosis. A stable centric occlusal relationship did not exist. The lower arch was in good repair, missing 19 and 30, which were

replaced with FPDs'. Periodontally, the lower arch was WNL. **Patients primary concern was to keep as many teeth as possible, avoid palatal coverage due to a very active gag reflex and, have an attractive and functional dentition with a reasonable long-term prognosis. She had no aversion to implants. However, she did not want extensive invasive grafting or an extended prolonged time line of treatment.**

At the initial consultation she was informed that she presented with some significant challenges but that other treatment possibilities were viable. The first step would be to determine exactly what there was to work with for prosthetic support. The upper arch would require a metal reinforced provisional fixed bridge initially. The restorability of 3, 11 and 13 would be determined at that time leading to a definitive treatment plan.

CASE OF THE MONTH A SPECIALIST PERSPECTIVE



Faced with an upper failing arch, this mature female patient had been presented with a treatment plan consisting of multiple extractions and a complete maxillary denture by her GP and declined that option. She was then referred to an OS for an implant consult where she was presented with a treatment plan of bilateral sinus augmentation, the placement of 6 to 8 implants and a bar retained overdenture. She declined due to the extensive surgery, the time line and



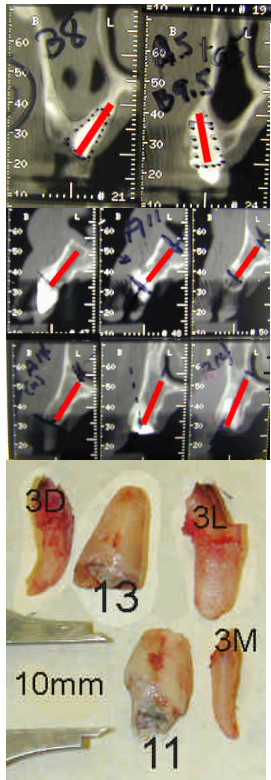
A periodontal exam was necessary to evaluate the long-term prognosis of the remaining upper teeth, and for the resculpting of the anterior soft tissue drape to enhance her smile line. A preliminary Dx wax up was completed. The following tentative treatment options were discussed:

- 1) Extract 11 and 13. Possible PFM FPD from 3 to 11 (#11 being a cantilever pontic) with a Dalbo precision attachment partial with a minimal anterior palatal strap.
- 2) Extract 3, 11, and 13. PFM FPD from 6 to 10, implant placement in sites 3MF, 3L and 11,12,13. An implant supported milled bar with a PFM super structure on the right and

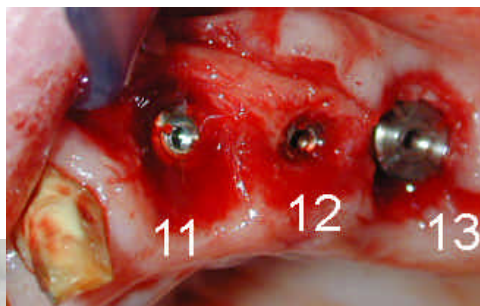


a 4-unit implant supported PFM FPD on the left. All three segments would be interconnected with tube screw locks between 5/6 and 10/11 to provide cross arch splinting.

3) Extract 3, 11 and 13 and place 2 implants on each side in sites 3MF, 3L, 11 and 13. Restore the implants with milled tissue bars to support a fixed / detachable milled RPD. The anterior segment would have a fixed anterior bridge with milled linguals as in the #2 Tx plans. Patient accepted the initial treatment considerations and the upper teeth were prepared for crowns. Caries was removed and the questionable teeth were evaluated. #3 had considerable caries that extended deep into the root. #11 had minimal remaining coronal structure and would have required a very large cast post. If sufficient root were present, it would have been restorable. #13 had a vertical fracture. A provisional bridge was placed and the patient referred for periodontal evaluation. Perio evaluation confirmed the questionable long-term prognosis of 3, and the hopeless prognosis of 11 and 13. Soft tissue recontouring was completed. A second consultation reviewed the options in light of the joint pros/perio assessment and the patient decided on treatment plan #2. She was then scheduled in my office for extraction of 3, 11,13 and the placement of 5 implants. A CT scan was used to detail the exact



4.5 mm x 9.5 mm were placed in sites 3L and 3MF respectively. Minor crestal defects were grafted in the extraction sites with BioOss /autogenous bone and Biogide membranes were placed. All the implants were very stable following insertion with a good prognosis. The provisional bridge was rece-



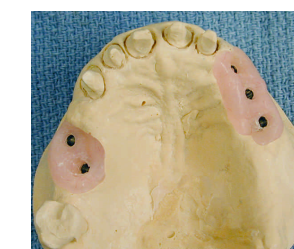
mented and the patient was seen at 5 days post op. Evening and following day post op calls indicated patient was doing very well with very minimal swelling, no bleeding, and the need to take only one Vicodin.

Patient was seen at regular intervals and healing was excellent and uneventful. On 9/7 the implants were exposed and healing abutments were placed. Approximately three weeks later the preparations on the natural teeth were finalized and a full arch final impression of the upper arch was completed. Double cast were made and mounted. Abutments were selected and the final design was given to my technician. Metal try-in was uneventful.

locations of the implants. Patient was given oral sedation and local infiltration anesthesia. The teeth were gently removed with a periosteal elevator. Minimal flaps were elevated on both sides. Osteotomies were performed and 3.5 mm x 11mm Ankylose implants were placed in sites 11 and 12 and a 4.5mm x11mm implant in site 13. Ankylose 4.5 mm x 8mm and 4.5 mm x 9.5



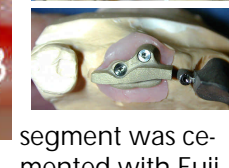
A verification centric bite was obtained with the framework in place. Shade verification was completed with the patient's approval and the provisional was reinserted. The case was returned to my technician for porcelain applica-



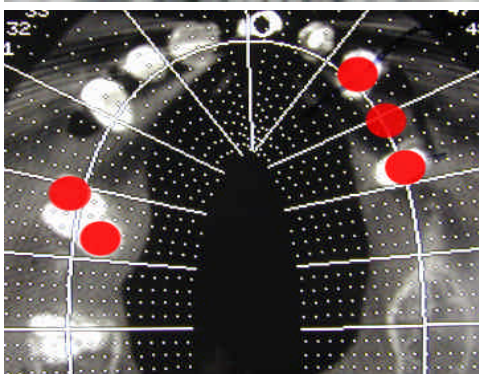
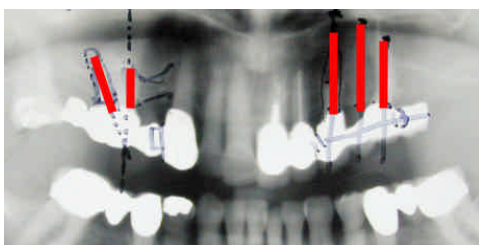
tion. Insertion appointment was routine. The abutments were seated and appropriate torque was applied. Seg-



ments were inserted and the occlusion was verified as were contour, fit and esthetics. The anterior



segment was cemented with Fuji and the posterior segments were cemented with Tempbond and the set screws were inserted. Cement was removed and the patient scheduled for a hygiene and post op appointment. Specific instructions relative to the design of the prosthesis were given along with supplies before completion of the appointment. The overall treatment objectives were achieved. The entire upper arch was restored with fixed restorations. Minimally invasive surgery was required to achieve placement of 5 implants. Patient retained her healthy natural teeth and did not have to have palatal coverage or a bilateral sinus procedure.



The esthetic improvement was dramatic and masticatory function has improved significantly. Her long-term oral health prognosis is excellent. A complex problematic maxillary arch was evaluated, diagnosed and treatment planned from a prosthodontic specialists perspective. **Additional treatment options were presented to the patient and a less invasive, more affordable, highly esthetic and functional treatment plan was carried to completion, to the delight of the patient.**

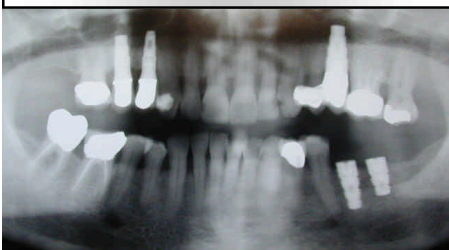


BEFORE



AFTER

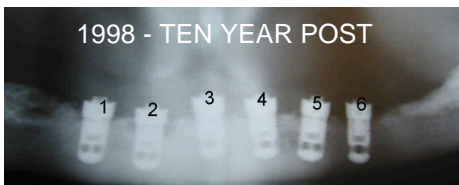
PAGE 4 Esthetic dentistry patients pan— veneers, crowns and implants



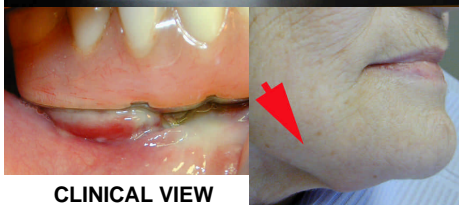
CLINICAL COMPLICATIONS

A WORD OF CAUTION ABOUT PARTICULATE HA RIDGE BUILD UP AND ENDOSTEAL IMPLANTS

Six HA coated implants were placed in 1988 in the symphysis area. Particulate HA was placed around the implants and the distal ridge area. Approximately one year after insertion and function with O ring retention, the patient was referred to me for a more stable restoration. A fixed bone anchored denture was placed that has served the patient well. I had not seen the patient for a couple of years when she returned with a massive mandibular infection. I then learned that she had suffered a stroke, was in a care facility with limited ability to maintain her oral hygiene.



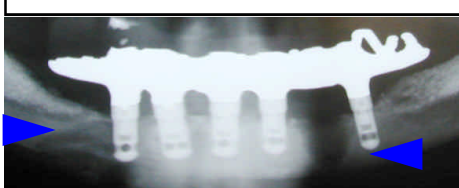
1998 - TEN YEAR POST



CLINICAL VIEW



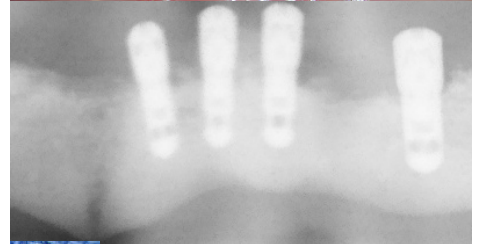
LEFT 2ND MOST POSTERIOR IMPLANT WAS LOOSE AND FLOATING IN GRANULATION TISSUE AND LIFTED FROM THE SITE. PAN ILLUSTRATES BONE LOSS.



Patient was diagnosed with osteomyelitis and referred to oral surgeon for treatment. This consisted of gross debridement, removal of involved HA and IV antibiotics. It took several months for the patient to recover.



POST OP HEALING



The infected implants were devoid of the HA coating. Localized acute infections are not unique to HA coated implants. Progressive bone

loss due to overload, loss of attached tissue around the implants and inadequate oral hygiene can result in acute localized infections regardless of implant coating. HA and TPS coated implants are more vulnerable to more rapid onset and greater bone loss. This can be further magnified with the presence of HA augmentation grafting of the ridge.

The next example is a patient with a bone anchored implant bridge that has functioned for more than 15 years. The implants are threaded machined titanium. Recall and hygiene failure on the patients part resulted in bone loss (exposed threads) and loss of attached tissue. This was a slow progressive and chronic condition until it reached a level where it flared into an acute infection. When the patient returned, the BAB was removed, the area was flapped, the infected HA and inflammatory tissue removed, the implant surface was cleaned and polished and allowed to heal. Later, attached tissue will be added. No implants were lost and bone loss was minimal. **It's best to avoid particulate HA around endosteal implants!**



ESTHETIC DENTISTRY

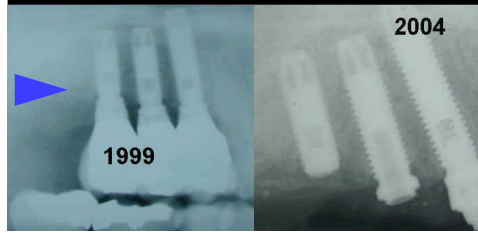
Real esthetic dentistry is natural appearance. Our society unfortunately, has gone overboard with the bleach as white as a sheet look. I still like teeth to look like teeth and to have character. Here is one of my favorite unbleached patients who is in her 60's. She is a Vita A2 with multiple restorations. Her hygiene is impeccable. Incidentally, can you tell what is real and what isn't?



REAL ESTHETICS IS HEALTH



OUR PARTS NEVER BREAK DEPARTMENT

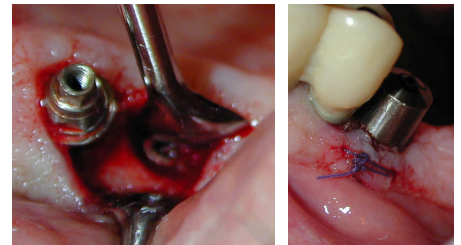


This is a perfect example of **metal fatigue** and possibly an indication of the effect of excessive crown root ratio on implants. This patient was treated in 1992 with 3 Implant Innovations 3.75mm "Branemark" type implants. The lengths were 13, 15, 18 respectively. I restored the patient. Subsequently he was in maintenance with a perio practice. The patient essentially functioned unilaterally as the dentition on the opposite side was limited to one bicuspid. Patient returned to my office when his periodontist said that the bridge was loose! Patient handed me an envelope with the bridge parts. The coronal portion of the distal implant was fractured at the neck. All three abut-



ment screws were fractured at various levels and had to be removed from the implants. The 2 distal implants had been restored with two conical abutments and a custom cast abutment on the anterior unit.

First order of business was to surgically "find" the implant, assess the amount of bone loss and graft.



The area was allowed to heal for several months and then a new impression was made. The old bridge was sectioned and the distal unit was replaced and porcelain was re-applied. **Screws never fail ALL at**



once. Had **regular maintenance** occurred, this would have been considerably less catastrophic !

Treatment provided by PAUL BINON DDS, MSD. We provide surgical and prosthetic implant treatment .

PAUL P. BINON DDS, MSD

United we stand