

When Is Too Little Bone, Too Little Bone?

By Andrei Mark, D.D.S., Board-Certified Oral and Maxillofacial Surgeon

I recently had the opportunity to consult with a young lady 83 years of age, who presented with many years of denture wear. On the day of the presentation, she had a denture that was about 2 inches thick and she had absolutely no retention on the lower jaw. Clinical examination revealed a large lingual tubercle where the tongue attaches to the mandible, with approximately 8-9 mm of mandibular bone. Her chief complaint was that the dentures were loose and this made her literally unable to chew.

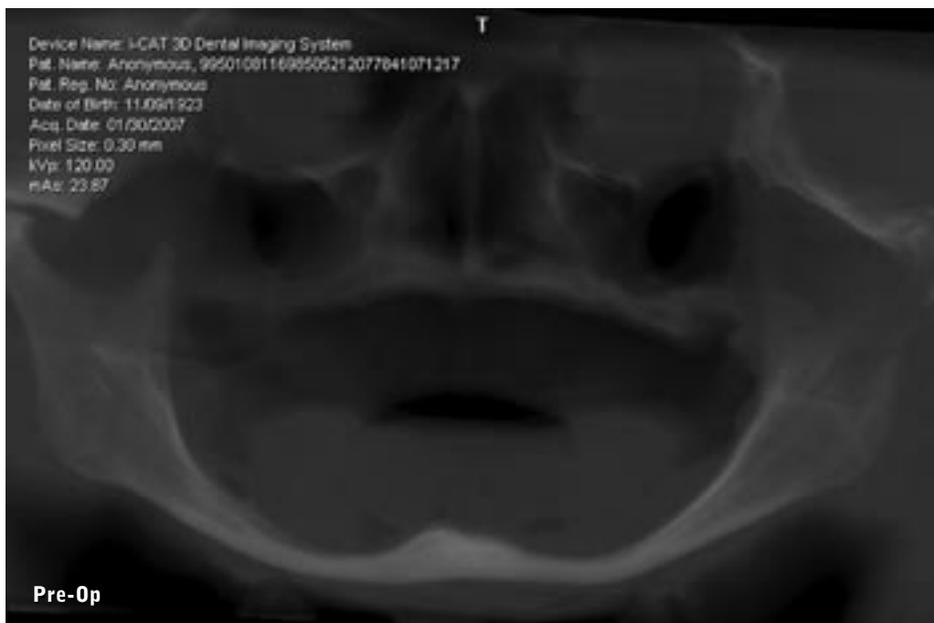
A cone beam i-CAT scan was taken and lo and behold, there was almost no bone left on her mandible. At this point I thought to myself, when is too little bone, too little bone? The inferior alveolar nerves were exiting at the crest of the bone and there was no way to place implants distal to the mandibular nerves. There was, however, approximately 9 mm of thickness to the mandible in the chin area just between the mandibular foramina. That bone would serve to be sufficient to place four implants bicortical and support a full lower denture, while giv-

ing her the retention she will need in order to chew her food. This solution was presented to the patient and after discussing any and all risks and complications with the patient, she agreed to have the surgery performed.

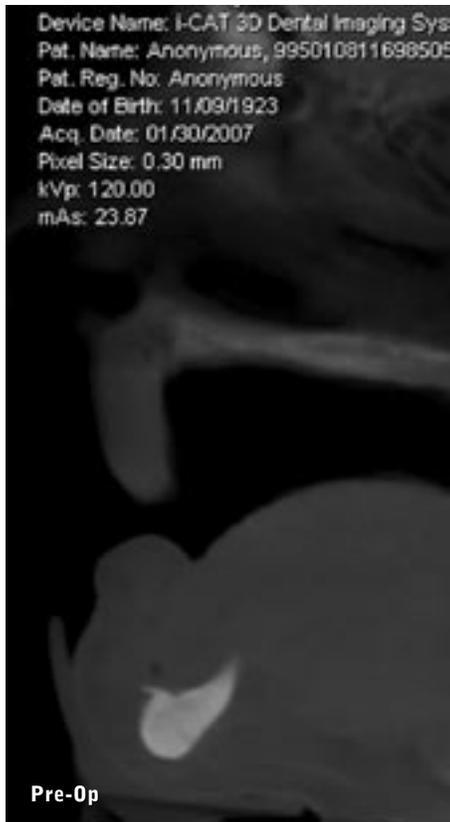
Despite her age and her severely atrophic mandible, she was an excellent patient. After achieving local anesthesia with lidocaine infiltration, a full-thickness mucoperiosteal flap was elevated. The difficulty in a case like this is in the soft-tissue dissection. Since the inferior alveolar nerves were exiting at the crest of the mandible, the incision had to be made lingual, and a careful subperiosteal dissection had to be performed in order to preserve sensation to her lip. Also, the large lingual tubercle became hard to maneuver around, and it interfered with the soft tissue closing around healing screws.

Four osteotomies were drilled with progressive enlarging drills. These osteotomies were bicortical, engaging the inferior border of the mandible. Approximately 9 mm of bone was found anatomically between the two cortices. Four Lifecore dental 4.0 x 10 mm implants were placed. These implants were remarkably solid and required approximately 40 N of force to fully engage. This gave me the confidence to place healing screws 6 mm high and close the soft tissue around them. Her previous denture was drilled in the area of the healing screws, allowing it to fit passively over them. A silicon soft line was placed in the bottom of the denture, and the denture was laid over the soft-tissue flap and healing screws. The patient tolerated the procedure very well and received improved stability immediately.

After three months of healing, the patient went to her dentist, Dr. Steven Schloss, who removed the healing screws and placed impression posts. A master cast was made by the laboratory and a new lower denture was fabricated. This denture was secured to the implants with locator attachments. The great advantage of locator attachments is the fact that they can be used in situations that are not parallel.



See Page 15



On the day of delivery, the denture was tried in the patient's mouth. It is not unusual, if this is lab-fabricated, to have difficulties with an exact match between locators and the implants. That is exactly what happened in this case, so the dentist and I decided to remove the attachments from the denture and place them directly on the implants in the patient's mouth. The denture was relined with cold-cure acrylic. When the denture was applied to the implant, the locator was transferred to the acrylic within the denture. Once that was done, the fit was absolutely perfect. The patient came back the next day for adjustments of sore spots.

This patient was ecstatic with her final result and with her ability to chew the foods that had been virtually impossible to chew in the past.

This case is a great example of how we can help patients even when at first glance there appears to be insufficient bone to make either a new denture, or an overdenture with implants.

Contact Dr. Andrei Mark at Central Park Oral Surgery, amark@cpoms.com or by phone at (212) 813-0707. ■

the doctor will
hear you now

want better health care? start asking more questions. to your doctor. to your pharmacist. to your nurse. what are the test results? what about side effects? don't fully understand your prescriptions? don't leave confused. because the most important question is the one you should have asked. go to www.ahrq.gov/questionsaretheanswer or call 1-800-931-AHRQ (2477) for the 10 questions every patient should ask. **questions are the answer.**