P-SU-002

IMPLANT THERAPY OUTCOMES; SURGICAL ASPECTS

Simple method to harvest 0.2cc autogenous bone from mandibular ramus or body

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Abstract

Back ground) Usually less than 0.4cc powder bone is enough for bone grafting in immediate implant installation after tooth extraction or bone augmentation for single implant. Powdered autogenous bone can be used with allogenous powder bone mix. From a clinical perspective, less than 0.2cc powdered autogenous bone would be enough in small sized bony defect area grafting. This study was to find a method to reduce chair time for harvesting small amount(0.2cc) autogenous bone from mandibular ramus or body. **Aim)** The aim of this study was an evaluation of using fissure bur and bone rongeur instead of piezo surgery kit of trephine bur in small amount autogenous bone harvesting from mandibular ramus of body. This evaluation would be useful to find a method to reduce chair time for autogenous bone harvesting. **Materials and method)** Under local anesthesia autogenous bone was harvested from mandibular ramus or body in 145 cases. The amount of harvested autogenous bone was about 0.2cc in each cases. After periosteal elevation chair time checking was begun and finished before bone crushing. Fissure bur was adapted about 45 degree from horizontal. Bone drilling depth was about 6mm. Fissure bur had to cut the continuity of cortical bone. From lingual side fissure bur drilling was performed to buccal side. In buccal side 7~8mm length bone drilling was performed from distal to mesial. After buccal side bone preparation, fissure bur drilling was done to lingual side again. Bone preparation shape was C. After fissure bur drilling, lingual side bone was first harvested with bone rongeur. After lingual side, buccal side bone was harvested with bone rongeur again. Bone harvesting procedure was finished with osteoplasty. Harvested bone was grafted unilaterally or mixed with allogenous bone after bone crushing procedure. **Result)** The average of chair time for harvesting autogenous bone from mandibular ramus or body with fissure bur and bone rongeur was 4 minutes and 38 seconds in 145 cases. The direction of fissure bur adaptation made different chair time. If it was close to vertical, lingual bone harvesting took more chair time. If it was close to horizontal, buccal bone harvesting took more chair time. The average chair time with fissure bur and bone rongeur was shorter than piezo surgery kit or trephine bur. In 94 cases of 0.2cc bone harvesting with piezo surgery kit, the average chair time was 7 minutes 12 seconds. In 83 cases of 0.2cc bone harvesting with trephine bur, the average chair time was 13 minutes 21 seconds. In 123 cases, there were post operative swelling. The post operative swelling disappeared in 10 days in all cases. In 12 cases, patients complained about sensitivity of sharp lingual bone edge. In 3 cases, additional osteoplasty was needed because the lingual bone edge was exposed. **Conclusion)** Autogenous bone harvesting with fissure bur and bone rongeur from mandibular ramus or body could reduce chair time compared to piezo surgery kit or trephine bur. Because of the thickness of fissure bur, fissure bur drilling on mandibular ramus or body could make enough space to adapt bone rongeur. The bone rongeur adaptation was the most important procedure in this study. If there was inadequate space for bone rongeur adaptation, additional fissure bur drilling was needed.

Background and Aim

Back ground

Usually less than 0.4cc powder bone is enough for bone grafting in immediate implant installation after tooth extraction or bone augmentation for single implant. Powdered autogenous bone can be used with allogenous powder bone mix. From a clinical perspective, less than 0.2cc powdered autogenous bone would be enough in a small sized bony defect area grafting. This study was to find a method to reduce chair time for harvesting small amount(0.2cc) autogenous bone from mandibular ramus or body.

Aim

The aim of this study was an evaluation of using fissure bur and bone rongeur instead of piezo surgery kit of trephine bur in small amount autogenous bone harvesting from mandibular ramus of body. This evaluation would be useful to find a method to reduce chair time for autogenous bone harvesting.

Methods and Materials

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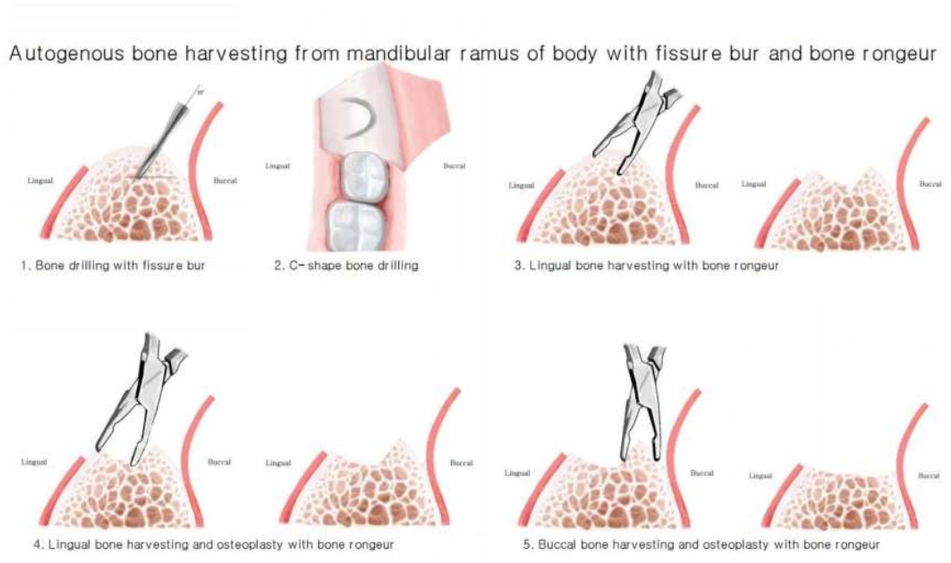

Autogenous bone harvesting from mandibular ramus or body with fissure bur and bone rongeur

Results

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The average of chair time for harvesting autogenous bone from mandibular ramus or body with fissure bur and bone rongeur was 4 minutes and 38 seconds in 145 cases. The direction of fissure bur adaptation made different chair time. If it was close to vertical, lingual bone harvesting took more chair time. If it was close to horizontal, buccal bone harvesting took more chair time.

The average chair time with fissure bur and bone rongeur was shorter than piezo surgery kit or trephine bur. In 94 cases of 0.2cc bone harvesting with piezo surgery kit, the average chair time was 7 minutes 12 seconds. In 83 cases of 0.2cc bone harvesting with trephine bur, the average chair time was 13 minutes 21 seconds.

In 123 cases, there were post operative swelling. The post operative swelling disappeared in 10 days in all cases. In 12 cases, patients complained about sensitivity of sharp lingual bone edge. In 3 cases, additional osteoplasty was needed because the lingual bone edge was exposed.

About 0.2cc autogenous bone harvesting from mandibular ramus or body

Used instruments	Average chair time
Fissure bur + bone rongeur (145 cases)	4minutes 28seconds
Piezo surgery kit (94 cases)	7minutes 12seconds
Trephine bur + bone rongeur (83 cases)	13minutes 21seconds

Conclusion

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Autogenous bone harvesting with fissure bur and bone rongeur from mandibular ramus or body could reduce chair time compared to piezo surgery kit or trephine bur. Because of the thickness of fissure bur, fissure bur drilling on mandibular ramus or body could make enough space to adapt bone rongeur. The bone rongeur adaptation was the most important procedure in this study. If there was inadequate space for bone rongeur adaptation, additional fissure bur drilling was needed.

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