Autogenic Dentin Graft: The Ultimate Graft for Ridge Preservation

- It attracts osteogenic cells in the socket.
- Therefore, undergoes “ANKYLOSIS” mineralized bone is formed directly on dentin
- When remodeling occurs it is replaced by bone.
- Because mineralized dentin is dense and not porous it remodels slowly (4-8 years), while all other grafts resorb in months and are replaced mainly by fibrous tissue.
- Allows placing implants and loading after half time of others.
Ankylosis of Bone to Dentin

Ankylosis is a biological process in which osteogenic cells are attracted by mineralized surfaces of cementum or dentin. These cells attach through integrins to dentin surface and deposit mineralized matrix onto dentin surface. Mineralized bone matrix is cemented to dentin matrix, with no cellular interference.
Exp1. In-vivo Model for testing bioactivity of biomaterials

Human dentin mixed with fresh marrow is transplanted subcutaneously in the thoracic region of recipient DA rats.
Animal studies

Exp 2.

Autologous dentin was grafted into extraction sites. After 6 weeks implant was inserted.

Implant after 6 weeks in dentin grafted socket in minipig.
Dentin-Bone-implant interface
Histology of biopsies taken from grafting site of autologous dentin of patient after 2 month

Core of bone ankylosed to dentin

Lamellar bone ankylosed to dentin

2 month after

Autologous dentin

Lammelar new bone
Histology of biopsies taken from grafting site of autologous dentin of patient

Biopsy of grafted site after 2 month

Autologous dentin

Lamellar new bone