

THE IMPACT OF AUGMENTATION MATERIALS ON THE RECEIVER BONES

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Abstract

The use of different types of materials for bone augmentation has generated lots of controversies regarding the formation of the new bone substrata. Starting with the autogen bone, continuing with ceramic, plastic masses and finishing with metals, all these materials lead to a process of ossification, and, finally to a certain cure through distinct, but extremely laborious mechanisms.

Key words: *augmentation, materials, metals, auto transplant*

General data

In the specific literature, it is known that applying an auto transplant to the stratum of the receiver bone determine a whole chain of phenomena that will generate a vascular- conjunctive reaction from the part of the host which will result into a recovery of the bone defect that has generated the auto transplant.

The autogen bone used for the auto transplant, considered to be a gold standard in terms of augmentation materials is currently the only osteogenic material available to implant practitioners. It is known fact that bone material may be taken from extra oral sites (tibia, iliac crest) or intraoral sites, such as mentonier symphysis and mandibular ram.

Thus, the value of the receiver bone bed related to the bone graft is actually a reactor

tissue having an osteoinductor role. The main processes that occur after the application of a graft to the receiver bone bed are phased as follows:

- in the first days, at the interface of the receiver bone bed-transplant, young conjunctive cells and neoformation sanguine capillars;
- further on, these cells will turn into young connective osteoblasts, leading to the formation of a new bone tissue ;
- the new bone gets adjusted and then evolves to adult lamellar bone, which will achieve the desired bone continuity at this level.

Most of the living cells participating at the osteoformation process described above, belong to the biological structures of the receiver bone bed, which have a significant influence on the integration of the autografts . Thus, the autografts will fit much better to the receiver bed bone, if, in turn, it is well- vascularized.

The different receiver bone areas of the bone marrow autografts manifest an osteoformation capacity, while different grafts applied on the same type of receiver bone bed generate two very small variations and usually of short length during the desired bone regeneration.

Conclusions

The proper recovery of the bone stratum, no matter what kind of material may be used for augmentation, depends not only on the patient's capacity of healing himself, but also on the medical conditions.

All the processes described above contribute substantially not only to the formation of a neoformation bone stratum, but also to a faster and more efficient recovery, as well as to a substantial improvement of patient's life quality.