

A novel procedure in implant surgery: Stem cells for the jawbone

The MKG group practice Flensburg offers a more patient-friendly method

Flensburg, Sep. 17, 2010 – Today, implants are often the first choice when it comes to the rehabilitation of patients who are suffering from tooth loss. The most important prerequisite for a safe implant placement is sufficient bone material. Periodontitis, long-term tooth loss or chronic infections make the jawbone shrink. The bone material then is no longer sufficient for a safe and esthetically satisfactory implantation. To correct this defect, Dr. Hans-Werner Klebe and Dr. Martin Sprengel are applying the innovative BMAC (Bone Marrow Aspirate Concentrate) method.

The Standard Procedure

Up to now "autologous or autogene" (donor and receiver are the same person) bone harvesting was considered the standard procedure. However, bone grafting frequently requires a further operation under general anesthesia, often a hospital stay and mostly a long, painful healing process.

The BMAC Procedure: Punction Instead of Operation

With this treatment method, which is used in a similar way in orthopedics and spine and heart surgery, in a single session the patient's own stem cells are extracted and, in combination with a bone substitute material, are inserted into the jawbone. With the help of a simple puncture of the pelvic bone, 40 – 60 ml of the bodies' own stem cells are obtained. These are then centrifuged for approximately 15 minutes, leaving about 5 ml of concentrated BMAC. This is drawn off with a syringe, mixed with bone substitute material and introduced into the upper or lower jaw, where there is no longer any bone or the bone substance has been damaged. This inserted bone material promotes solid bone development, and the growth process is accelerated, so that after about four months a substantially better anchorage for the implant is provided.

Advantages of the BMAC Procedure at a Glance

- Can be performed on an outpatient basis, a hospital stay is no longer necessary
- Local instead of general anesthesia
- Minimally invasive procedure
- No side effects
- Shortened healing phase
- Quicker recovery
- Therapeutic safety
- Greater comfort for the patient due to lower risk

What is an implant?

Dental implants have been used in dentistry for about 40 years. Various materials, among them ceramics, have been used during the search for the ideal material. During the last 30 years of rapid implantological research, pure titanium has asserted itself as the base material for almost all dental implants. A dental implant is an artificial tooth root. It usually has a helical or cylindrical design and is implanted into the jawbone in order to replace lost teeth. A dental implant takes over the same function as one's own tooth roots, since it grows together and fuses directly with the bone: It supports dental prostheses such as single crowns and bridges, and it can securely anchor removable dentures. When it comes to dental implant construction, a distinction is made between the implant body, which is introduced into the bone, and the construction parts, with which crowns and support structures for prostheses are attached to the implant body.



For further information, please visit our website of the
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