

Ten years in the new millennium and clinical breakthrough

EDITORIAL

With the beginning of the new millennium 10 years ago many of us were convinced that there was a clinical breakthrough in traumatology around the corner and that we with the help of stem cells and tissue engineering would be able to solve some of the problems in traumatology. Some research teams even stated that we 'within 5 years' would be able to grow new teeth to replace traumatized and lost teeth after trauma, prosthetic dentistry and implants would not be needed so many years more and deficient alveolar crests after trauma would be regenerated with the help of bone morphogenic proteins placed in a carrier medium. Ten years later we are still waiting for this breakthrough. Although we with the help of stem cells today can grow tooth tissue, the shape of the tooth itself cannot be formed, and who is happy with an odontoma like tissue? And although tissue engineering has a huge potential it has clearly not so far delivered up to the expectations which were presented ten years ago. So where are we in

ten years from now? Research on vital pulp therapy and revascularization of the pulp is a very interesting research field today. If infection can be avoided stem cells can apparently help revascularizing and revitalizing the pulp. This will have interesting clinical applications in young traumatized incisors. The periodontal ligament however, which is often injured in dental trauma, seems to be a much more difficult tissue to regenerate, although there are some recent reports where stem cells have been used to regenerate the periodontal ligament, at least some components of the periodontal ligament. In 10 years we have hopefully made further progress although history has so many times taught us that clinical breakthrough is seldom immediately around the corner.

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