

Grow Factors in Ampoules

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Growth factors are a set of substances, in general proteins that together with hormones and neurotransmitters, play a fundamental role in intercellular communication. The main function is cell cycle control. Initiating mitosis, maintaining proliferation and cell survival, migration, differentiation, and apoptosis.

They act by binding to beleaguered cellular receptors on the membranes, transmitting the outer signal into the cells. Growth factors are transported by serum. For cell proliferation, not only serum, but also adhesion molecules such as fibronectin, vitronectin and other nutrients molecules like lipoprotein, transferrin and also nutrients, amino acids and energetic molecules.

Growth factors can be achieved through Platelet Rich Plasma (PRP). After a simple collection of blood, by venipuncture, the material is taken to a centrifuge. Thus, a multiplication of the platelets is achieved, obtaining the rich and platelet-poor plasma, separately.

Poor plasma can be used in wound dressing in general. Rich plasma, so called because it contains growth factors, can be used in various situations, in addition to wounds.

Cell regeneration, improving muscle and joint pain, in periodontal pockets, clinically or surgically, together with grafts and many other situations of pain and aesthetics. Knowing that is possible to produce growth factors through bacterial fermentation, in the laboratory, I developed a test of stability with factors (the main ones) in ampoules.

After the technical confirmation of stability, by the laboratory, we were able to obtain the ampoules available for treatments. The 5 factors found in ampoules are:

EGF: epidermal growth factor

IGF: insulin growth factor

VEGF: vascular growth factor

aFGF: fibroblastic growth factor acid

bFGF: fibroblastic growth factor basic

Thus, we currently have, without the need for venipuncture, ready-to-treat growth factors [1-10].

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