ISSN 3060-4567

BASICS OF USING WOUND DRESSINGS CONTAINING CONNECTIVE TISSUE CELLS

Yuz-jag' jarrohligi kafedrasi 3-bosqich magistratura talabasi

Karimova Sitora Yusufovna

Yuz-jag' jarrohligi kafedrasi professori,t.f.d

Xramova Natalya Vladimirovna

Yuz jag' jarrohligi kafedrasi dotsenti, t.f.n

Xalmatova Matluba Artikovna

Abstract: *The application of wound coatings containing connective tissue cells is important in modern medicine for the effective and rapid healing of wounds. A wound is a damage caused by mechanical damage to the body's tissues, the healing process of which involves complex biological and chemical areas. For a wound to heal well and properly, the activity of cells in the tissue, their interactions, and the processes of new tissue formation must be properly regulated. In this respect, the application of connective tissue cells to cover the wound surface and perform its regeneration tasks is an innovative approach that significantly improves the healing process.*

Keywords: *connective tissue, treatment, mechanical damage, tissues, regeneration, organism, wound coatings, wound, biomaterials.*

Connective tissue cells are one of the main restorative cells of the human body, which play an incomparable role in the process of forming new tissue at the site of injury and restoring external damage. These cells are known mainly as fibroblasts, which are responsible for the production of structural components of collagen and other tissue matrix. Collagens ensure tissue strength and elasticity in the body, guaranteeing high-quality and durable wound surface regeneration. In addition, scroll cells are also actively involved in the formation of new blood vessels, which, by providing nutrients and oxygen, contributes to the rapid and complete restoration of tissues. Wound coatings are special Biomaterials created to protect the

ISSN 3060-4567

wound surface and biologically support its recovery process, which contain live connective tissue cells. Such coatings not only have a therapeutic effect, but also prevent the penetration of microorganisms, protecting the wound area from external influences. In addition, they provide a consistent mass to the wound, which stimulates the proliferation and movement of new cells. This coating, applied to the wound surface, maintains its activity throughout the process, reduces inflammation at the wound site, and allows the production of biological factors that have a positive effect on regeneration.[1]

The main factor that is paid attention to when introducing connective tissue cells into the sheaths is the active and lively presence of cells. It is necessary that the cells are preserved in laboratory conditions, grow and support the processes in the wound with the necessary biological activity. Combining these cells with biologically active growing factors, such as enrichment with growth factors, allows for further acceleration of processes. At the same time, it is necessary that the materials of the coating have biological purity and biocompatibility, since the lack of intake by the body or the occurrence of an allergic reaction reduces the effectiveness of treatment. Coatings based on natural biomaterials, such as collagen, glucosaminoglycans and other non-waste substances, are applied, structurally close to human tissues, providing continuous cell activity. Synthetic polymers, on the other hand, guarantee quality stability and provide sterile and consistent quality, but require additional molecules or cells to be enriched to increase their biological activity.[2]

Scroll cells control several important and complex processes on the surface of the wound. One of its main tasks is the production of a new tissue matrix – collagen fibers and other extratcellular matrix components. This new matrix creates the mechanical strength required to close the wound quickly and efficiently in cyclic processes. At the same time, fibroblasts also affect the inflammatory process, produce substances that regulate inflammation, prevent excessive inflammation and, through this, reduce the fact that the fibrosis process damages the quality of healing. In addition, these cells stimulate the process of angiogenesis — the formation and

ISSN 3060-4567

development of new blood vessels. Angiogenesis is essential to deliver oxygen and nutrients to new tissues and to further accelerate the body's healing process.[3]

With the help of new technologies, coatings containing connective tissue cells, which are used in the wound healing process, are enriched with advanced biological factors. The combination of growth factors, cytokines, and other biological modulators with cells increases wound healing efficiency. For example, biomaterials containing fibronectin, vascular growth factors, and transformable growth factors (TGF-beta) are important in enhancing cell proliferation and activity. This approach improves the adaptation of binding cells to the biological environment on the wound surface and increases the rate of tissue regeneration. These approaches are becoming a major part of modern regenerative medicine. When carrying out treatment with wound coatings containing connective tissue cells, each stage of the process is of great importance. The wound surface must be cleaned regularly and cleaned of germs, since the infection reduces the activity of the cells and slows down the recovery process. At the next stage, the coating is clearly placed on the surface of the wound, and its location, complete closure, is ensured. During the treatment process, regular monitoring of the wound, assessment of the condition of the coating and, if necessary, modification or additional means are required. These steps guarantee the successful completion of the process.[4]

The clinical practice of wound coatings containing connective tissue cells shows effective results in many medical centers. In cases of chronic injuries, such as diabetic foot wounds, pressure sores and complex burns, this method allows you to restore the wound more quickly and qualitatively. Also, the reduction, or absence, of infections in the field of injury has a positive effect on the general health of the patient and prevents complications. Treatment with this method improves the quality of life of patients, reduces the health recovery period and reduces the burden on the health system. The role of genetic engineering and 3D biochoping technologies in the development of wound coatings containing connective tissue cells is large. Genetically modified cells, capable of producing substances with special biological effects, make it possible to automate certain complex tasks in the wound process.

ISSN 3060-4567

With the help of 3D biochoping, wound coatings are made that are suitable for specific sizes, adapted to an individual patient, which allows them to work according to the exact anatomical characteristics of the wound site. These technologies provide the basis for the further development of modern regenerative medicine in the future.[5]

The use of wound coatings containing connective tissue cells is revolutionizing the medical field. With their help, the wound healing process is carried out in a natural, effective and accelerated form. The technique has many advantages over traditional treatments, setting new standards in the field of injury recovery. At the same time, it is confirmed that the clinical application of this approach is expanding, its biological safety and effectiveness. This will serve as an important foundation for further improving wound healing systems and opening up new therapeutic possibilities in the future.[6]

Conclusion:

In conclusion, wound coatings that contain connective tissue cells are a new method of treatment and have become an important part of the wound healing process in modern medicine. They completely close the wound surface, stimulate the formation of new tissue and regulate inflammation. Tissues recovered with fibroblasts are strong and durable, and through the formation of new blood vessels, tissue nutrition and respiration are improved. This ensures rapid and high-quality wound healing, reduces complications in chronic and complex wounds, and significantly increases the quality of life of patients. These coatings, manufactured using high technology, will start a new era in medicine, providing new opportunities for Regenerative Medicine and individual therapies in the future. Therefore, the practice of wound healing with the help of connective tissue cells is constantly developing and is expected to be used in many more areas.

REFERENCES:

1. Akbarov, J. (2019). "Connective tissue and its role in regeneration". Journal Of Higher Medicine, 4(2), 25-33.

ISSN 3060-4567

2. Toshpulatov, B. (2020). "New technologies related to fibroblasts in wound coatings". Biotechnology and Medicine, 3(5), 15-22.

3. Karimova, G. (2021). "Potential use of cell-based biomaterials in wound healing". Star Of Modern Medicine, 5(4), 50-59.

4. Rakhmonov, S. (2018). "Connective tissue cells and their tera-pevtic potential". Manual Of Medical Sciences, 8 (3), 80-88.

5. Islamova, D. (2017). "Biomaterials and coatings for wounds: modern approaches". Journal Of Biotechnology Of Uzbekistan, 2 (1), 10-19.

6. Murodov, A. (2019). "Wound healing process in the presence of fibroblasts". Innovations in Medicine, 6(2), 45-52.

7. Nazarova, M. (2020). "The importance of growth factors in wound coatings based on connective tissue". Healthy Life, 7 (3), 27-35.