

TISSUE AND CELLS TRANSPLANTATION IN THE REPUBLIC OF MOLDOVA, TRENDLINES

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The development of tissue transplantation in the Republic of Moldova began in the 1960s with the use of bone grafts. This laid the foundation for the establishment of national infrastructure for tissue preservation and transplantation. In 1962, a significant milestone was reached with the founding of the Tissue Preservation Laboratory. Over the following decades, Moldova advanced in the field through local innovation, scientific research, and institutional development. The creation of the Human Tissue and Cell Bank (HTCB) in 2011 marked a new era in the country's capacity to collect, process, preserve, and distribute various types of human tissues and cells. This article reviews the historical background, scientific contributions, and medical milestones that shaped the evolution of tissue banking in Moldova.

1. Introduction

Tissue transplantation is a critical component of modern medicine, aiding in the treatment of various degenerative, traumatic, and pathological conditions. In the Republic of Moldova, this field has undergone substantial development since the 1960s. The following article aims to present a chronological and thematic analysis of this evolution, focusing on key institutional developments and scientific contributions that led to the establishment of the Human Tissue and Cell Bank.

2. Historical Background

Bone grafts were initially imported from orthopedic centers in Kiev, Kharkiv, and Moscow, and were primarily used for the reconstruction of bone defects caused by dysplastic, tumoral, or post-traumatic conditions. The domestic preservation and preparation of such grafts began in 1962, with the founding of the Tissue Preservation Laboratory within the Republican Blood Transfusion Station, initiated by Professors L. Gladărevaschii and N. Testemițanu. This establishment operated under Ministry of Health Order no. 46 from 28.02.1962 and was relocated in 1966 to the Clinical Hospital of Traumatology and Orthopedics.

3. Institutional Leadership and Development

The Tissue Preservation Laboratory was led by *Igor Ivanenco* from 1962 to 1992, followed by Dr. Ion Baciș from 1993 to 2011. During this period, the lab contributed significantly to the field of tissue grafting and preservation.

The evolution of tissue banking reached a new level in 2011 with the directive from the Ministry of Health to establish the Human Tissue and Cell Bank (HTCB) within IMSP SCTO. The project was led by Professor Viorel Nacu, Ph.D. The HTCB was housed in the Republican Combustion Center and designed to include specialized units such as reception, processing, clean rooms, storage, and distribution. The facility was equipped to handle a wide array of graft types, including skeletal tissues, corneas, skin, amniotic membrane, and autologous bone marrow cells.

4. Milestones and Achievements

Since its formal establishment, the HTCB has achieved several significant milestones:

March 22, 2013: First allogeneic cornea harvesting at IMSP „St. Trinity”.

March 27, 2013: First corneal transplant using HTCB-sourced tissue.

March 28, 2013: Official inauguration of the Human Tissue and Cell Bank.

September 4, 2013: First allogeneic skin harvesting, preserved in 80% Glycerin.

October 3, 2013: First allogeneic skin transplant, treating a 58-year-old patient with 10% skin defects.

Conclusion

The Human Tissue and Cell Bank in Moldova represents a significant advancement in national healthcare infrastructure. It not only serves as a storage facility but also plays a crucial role in the processing, preservation, and distribution of various human tissues. Moving forward, it is essential to maintain adequate funding, state-of-the-art equipment, and alignment with European Union and national public health standards to ensure its continued success and expansion.

Keywords: Human Tissue and Cell Bank, Allogeneic Grafts, Tissue Preservation, Moldova, Medical Innovation