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BIOTECHNOLOGICAL DRUGS USED IN RADIOACTIVE SYNOVIALYSIS AND RADIATION PROTECTION

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The process of removing synovium tissue in the synovial system of the knee has been practiced for many years. The main goals of synovectomy are to relieve the symptoms that disturb the patient and to protect the joint cartilage. Sinovectomy can be done surgically by open and arthroscopic techniques, or by intraarticular administration of chemical or radioactive substances (synoviotortis). The most commonly used substance for radioactive synovectomy is Yttrium-90 (90Y). There are also Holmium macro-agglutination radioactive particles, Gold-198 (198Gold), Phosphor-32 (32P), Rhenium-186 (186Re), Erbium-165 (165Er), hexacetonide triamcinolone. There are three requirements for ideal synovial cortex: First, the particles must be sufficiently small to be phagocytes and large enough not to easily come out of the joint. The corresponding molecular size is 2-10 µm. Second, the radionuclides and particles, which will affect the half-life of the interaction, must bond to each other. The third should be homogeneously dispersed without inflammation within the radionuclide joint. In this study, it was aimed to evaluate the rules of biotechnological drug production and radiation protection in radioactive synovial process.

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