

STATE OF ART OF THE ^{99m}Tc -RADIOPHARMACEUTICALS IN RUSSIA.

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Since the beginnings of nuclear medicine and till nowadays technetium- 99m is still one of the main radionuclide. This is due to its perfect nuclear physical characteristics and also to its everyday elution from generator directly in clinics. Besides, the chemical properties of this radionuclide allow to obtain a great number of simple and complex substances of ^{99m}Tc , which are used in different clinical cases.

1. ^{99m}Tc -GENERATORS

The first commercial ^{99m}Tc -generators provided in Russia in 60-th were about 100 mCi. The generator column was filled with irradiated natural Mo which was sorbed on aluminium oxide. Later in 70-th the ^{99m}Tc -generators on the basis of fission ^{99}Mo was developed in the Institute of Biophysics. In 80-th the ^{99m}Tc -generator on the basis of enriched ^{98}Mo was developed in the Institute of Nuclear Physics of the Academy of Sciences of Uzbekistan.

The usage of the silica gel modified with manganese dioxide as a sorbent is one of the main features of the Russian generators.

Besides the chromatographic generators the centralized delivery of the ^{99m}Tc -pertechnetate solution obtained from extraction type of generator was organized in Tomsk and St.-Petersburg. A column extraction is used in the Scientific Research Institute of Nuclear Physics of the Tomsk Polytechnical University. The centrifugal extractor for separation of the ^{99m}Tc and ^{99}Mo