Contribution ID: **230** Type: **Poster**

Ga-68 Citrate as Promising Agent for PET

Thursday, 15 May 2014 17:30 (1h 15m)

Ga-67 citrate has large clinical application in imaging of infection and inflammation focal sites using SPECT. For today there is a possibility of creation of its PET-analogue due to commercial availability of Ga-68 generator.
As a consequence, the researches of various scientific and medical centers all around the world were aimed at assessing the suitability of diagnostic Ga-68 citrate for PET imaging of infection and inflammation focal sites.
First of all, the composition of lyophilized product was optimized. The content of sodium citrate should correspond to the concentration of 0.08±0.01 M in the final solution of the product (Ga-68 citrate).
RPh was prepared by introducing of concentrated and purified eluate (2 mL) of Ge-68/Ga-68 generator (Ga-68 chloride complex solution in 0.1 M HCl) into the vial with lyophilized composition. Then the vial was incubated at room temperature for 10 min.
Another way of RPh preparation was mixing the eluate of Ge-68/Ga-68 generator with an aqueous solution of sodium citrate (the citrate concentration in the final solution was 0.08 M).
The radiochemical purity of these RPhs was determined by thin layer chromatography using cellulose (Merck 5574) and silica gel (Merck 5553) on aluminum plate and the mixture of acetonitrile-water (1:1) as a the mobile phase. The value of the radiochemical purity was not less than 90% in both cases.
Experiments to study the biodistribution of Ga-68 citrate were also carried out. The results showed that the use of transferrin receptor blockade achieves much more acceptable biodistribution results. Studies on pharmaceutical development of this RPh will be continued.

Primary author: Ms KHAUSTOVA, Tatyana (Burnasyan FMBC)

Co-authors: Dr BRUSKIN, Alexander (Burnasyan FMBC); LARENKOV, Anton (Burnasyan FMBC); LESIK, Ekaterina (Burnasyan FMBC); Prof. KODINA, Galina (Burnasyan FMBC); ZHUKOVA, Maria (Burnasyan FMBC)

Presenter: Ms KHAUSTOVA, Tatyana (Burnasyan FMBC)

Session Classification: Poster Session - Radiopharmaceutical Chemistry, Labelled Compounds

Track Classification: Radiopharmaceutical Chemistry, Labelled Compounds