National regulations in Radiopharmacy: Is the present situation generally acceptable?

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INTRODUCTION

Radiopharmaceuticals are radioactive drugs used for diagnostic and therapeutic purposes. Production, control, distribution and clinical application of radiopharmaceuticals in EU have not been subject to the same regulations and legislation developed for conventional pharmaceutical products. Generally, regulations of radiopharmaceuticals in Republic of Macedonia are in compliance with EU regulative, but marketing authorisation is not recognize in practise, although the regulation requires it.

THE AIM: To evaluate the regulations in Republic of Macedonia dealing with radiopharmaceuticals with emphasis on Marketing authorisation, keeping in mind that the way how radiopharmaceuticals is developed and introduced to the users are completely different from what was typical for conventional pharmaceutical products.

MACEDONIA BECOMES A REGIONAL CENTER FOR ISOTOPES

EUDRALEX Annex 3
Manufacture of Radiopharmaceuticals
EU Directive 2004/27/EC
31 March 2004

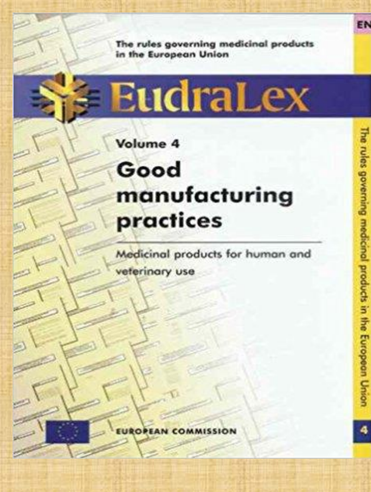
SPECIFIC ISSUES

The quality of the radiopharmaceuticals is defined in the applicable EU pharmacopeia monographs of individual radiopharmaceuticals.
Radiopharmaceuticals could not be considered as something extraordinary, so the same quality standards would have to be appled for these products as for conventional Pharmaceuticals.

Many countries have established national registration procedures to obtain official market authorisation for a radiopharmaceutical. In Republic of Macedonia radiopharmaceuticals are included under the general legislation for medicinal products. Republic of Macedonia is a small country and usage of radiopharmaceuticals is small. Therefore the interest in registering these products is limitted.

STATUS OF RADIOPHARMACEUTICAL REGULATIONS IN REPUBLIC OF MACEDONIA

1. **Law on Medicines and Medical Devices** (Official gazette No. 106/07,88/2010, 36/11, 53/11, 136/11, 11/12, 147/13, 27/14, 43/14, 88/15) in which radiopharmaceuticals are regulated
2. **Rulebook on the contents of the application, the documentation and detailed requirements in respect of the premises, equipment and staff for granting authorisation for production of medicinal products** (Official gazette No. 106/07,88/2010, 36/11, 53/11, 136/11, 11/12, 147/13, 27/14, 43/14, 88/15)
3. **Rulebook on Good Manufacturing Practices** (fully in a compliance with EudraLex Volume 4 Good Manufacturing Practices Annex 1 for Manufacture of Sterile Medicinal Products 01/ fully 03/2009, Annex 3 for Manufacture of Radiopharmaceuticals, Annex 11 for Computerized Systems and Annex 15 for Qualification and validation.
4. **Law on Ionizing Radiation Protection and Safety** (Official gazette No.48/02, 135/07, 53/11, 164/13, 43/14, 149/15)



CONCLUSION

The Law on medicinal products and medical devices of the Republic of Macedonia is completely in compliance with the EU regulative. But, it is obvious that the requirements used for non-radioactive drugs could not be applied directly to the radiopharmaceuticals. It must be recognised that radiopharmaceuticals do not have a measurable pharmacodynamic effect. In the same time radiopharmaceuticals have a changing composition with time due to the radioactive decay of the ultra-short lived radionculides, so some thimes it is impossible to perform quality control. Republic of Macedonia must to establish national registration procedures to obtain official market authorisation for a radiopharmaceutical, taking bearing in mind that recently in Republic of Macedonia PET centre was established and we have our own production of radiopharmacuticals.