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**ABSTRACTS**  
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## 11<sup>th</sup> Edition of The Balkan Congress of Nuclear Medicine

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**FEASIBILITY STUDY - A MEAN FOR MULTI-FACETED ASSESSMENT OF THE IDEA OF ESTABLISHING RADIOISOTOPE PRODUCTION AND INTRODUCING NEW RADIOPHARMACEUTICALS INTO CLINICAL PRACTICE**

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With the aim of obtaining an objective insight into the idea of establishing the production of zirconium-89 radioisotope and introducing <sup>89</sup>Zr-radiopharmaceuticals into clinical practice, a feasibility study was prepared.

This study was originally designed and covers several aspects. The preliminary analysis comprised a review of the application of <sup>89</sup>Zr-radiopharmaceuticals in clinical trials and a statistical data review regarding malignant diseases. The market research included searches on the distribution of medical cyclotrons and production sites of zirconium-89 radioisotope in Europe. The technical feasibility determination was based on the analysis of the technical capacities of the production site - University Institute of Positron Emission Tomography (UI PET), in terms of space and equipment necessary for producing zirconium-89 radioisotope. The economic feasibility estimation comprehended financial and pharmacoeconomic analysis. The production process was simulated and a cost analysis was used to calculate the cost of production of zirconium-89 radioisotope and <sup>89</sup>Zr-trastuzumab radiopharmaceutical. A cost-benefit analysis was conducted to assess the cost-benefit ratio of either testing patients with <sup>89</sup>Zr-trastuzumab PET/CT or biopsy as the comparison alternatives.

By the evaluation of the data from all conducted analyses, favourable and unfavourable factors and circumstances were identified, indicating some challenges but also opportunities towards better cancer management and research development.