(TECHNOLOGISTS PROGRAM)

(Proposed to be presented as Oral Communication or as a Poster)

Abstracts List of Topics:

Conventional / Specialised Nuclear Medicine

811. Miscellaneous

Abstract Title:

Actualities on Nuclear Medicine Applications in Sports Medicine

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Abstract Text:

Aims: This paper aims to address some of the main possible applications of actual Nuclear Medicine Imaging techniques and methodologies in the specific context of Sports Medicine, namely in two critical systems: musculoskeletal and cardiovascular.

Discussion: At the musculoskeletal level, bone scintigraphy techniques proved to be a mean of diagnosis of functional orientation and high sensibility compared with other morphological imaging techniques in the detection and temporal evaluation of pathological situations, for instance allowing the acquisition of information of great relevance in athletes with stress fractures. On the other hand, infection/inflammation studies might be of an important added value to characterize specific situations, early diagnose of potential critical issues – so giving opportunity to precise, complete and fast solutions – while allowing the evaluation and eventual optimization of training programs. At cardiovascular system level, Nuclear Medicine had proved to be crucial in differential diagnosis between cardiac hypertrophy secondary to physical activity (the so called "athlete's heart") and hypertrophic cardiomyopathy, in the diagnosis and prognosis of changes in cardiac function in athletes, as well as in direct - and non-invasive - *in vivo* visualization of sympathetic cardiac innervation, something that seems to take more and more importance nowadays, namely in order to try to avoid sudden death episodes at intense physical effort. Also the clinical application of Positron Emission Tomography (PET) has becoming more and more widely recognized as promising.

Conclusions: It has been concluded that Nuclear Medicine can become an important application in Sports Medicine. Its well established capabilities to early detection of processes involving functional properties allied to its high sensibility and the actual technical possibilities (namely those related with hybrid imaging, that allows to add information provided by high resolution morphological imaging techniques, such as CT and/or MRI) make it a powerful diagnostic tool, claiming to be used on an each day higher range of clinical applications related with all levels of sport activities. Since the improvements at equipment characteristics and detection levels allows the use of smaller and smaller doses, so minimizing radiation exposure it is believed by the authors that the increase of the use of NM tools in the Sports Medicine area should be considered.

Foi decidido que não será apresentada a versão integral deste documento.

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