

Congress of Nuclear Medicine – Serbia and Montenegro

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[Received: 22 IX 2003; Accepted: 30 IX 2003]

Introduction

The Nuclear Medicine Congress of Serbia and Montenegro was held in Vrnjačka Banja from September 24–27, 2003. In total, 39 abstracts were presented with clinical/*in vivo* topics, as well as a further 32 concerning *in vitro*/radiochemistry topics, through 6 oral and 2 poster sessions. These were accompanied by two plenary sessions with 7 invited lecturers, “The Milovan Antic Award” session with 7 papers, two commercial presentations (Siemens and Philips) and one book promotion. As the highlights lecturer, it gives me great pleasure to summarise some of these presentations.

Endocrinology

Stefanovic and colleagues from Sremska Kamenica discussed the results of small differentiated thyroid carcinoma. This is a very important issue, as following the improvement in diagnostics, small thyroid carcinomas and/or microcarcinomas are more frequently detected and consequently, treated. These very good treatment results is good news for everybody.

However, the news is not so good for patients from a second similar study from the same centre by Mihailovic et al. In their study on the frequency of metastases and the lethal outcome of locally invasive differentiated thyroid cancer, they showed a poor outcome in these cases. This, again, underlines the importance of early diagnosis.

The very interesting issue of thyroglobulin RIA standardisation in thyroid carcinoma treatment was raised by Han and colleagues from CCS, Belgrade. The lack of standardisation in international NM is really a problem, also in RIAs. The use of various analytical pro-

cedures, lack of standards and national guidelines may lead to clinical malpractice, therefore standardisation has become an area of major concern for EANM and national bodies and the number of publications on it is increasing.

The issue of the improvement in the sensitivity of a new generation radioreceptor test for the detection of TSH-receptor antibodies was also raised in a paper by Nebojsa and Jane Paunkovic from Zajecar.

A set of papers on RIA in thyreology, standardisation and certification was presented by a group from INEP in Zemun.

Dugonjić and Janković from Belgrade reported their excellent results in parathyroid imaging. Parathyroid RN imaging is paradoxically both a very simple and quite difficult area of study, even if one uses subtraction, SPECT or thyroid blockade. Therefore, congratulations are deserved for the excellent results, but I would advocate some follow-up and a distant re-evaluation.

A similar study was presented by a group from Banja Luka.

Cardiology

Vojcic et al. from Sremska Kamenica reported an interesting series of 41 cases of patients with findings of normal or nonsignificant stenosis of the carotid artery and myocardial perfusion scanning. Also, a second study from the same centre compares the sensitivity of both techniques. These are interesting views in the international discussion on the discrepancies shown by both studies, underlying the superiority of radionuclide studies, but also underlying the possibility of the artefacts of RN studies as well.

Prvulovic and et al. from the same centre presented an interesting comparison of radionuclide and NMR cardiologic diagnostics.

D Šobić-Šaranović and colleagues from CCS in Belgrade compared low dose dobutamine and low dose dipyridamole radionuclide ventriculography in the detection of myocardial contractile reserve in patients after myocardial infarction showing the superior, particularly negative, prognostic value of the dipyridamole test for predicting functional recovery of infarcted regions.

A paper by Mitov and colleagues from Zajecar, contributes to the same stream of discussion by dealing with the side effects of dipyridamole. These are interesting voices in the still unfinished discussion about the superiority/inferiority of the stress test compared to pharmacological testing in CHD. Is pharmacological testing really superior to the stress test? An interesting report of two cases with thrombolytic therapy came from the same group.

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Oncology

In an interesting review, Pavlovic from KCS, Belgrade, assessed the diagnostic applications of PET in lung cancer. In my, albeit subjective, opinion, PET is an excellent tool, but its role should not be overestimated; a cost-benefit analysis of PET should be carefully applied, and a thorough comparison with its major business rival — peptides like octreotide or depreotide, should be performed.

D. Huić, S. Težak et al. from Zagreb, Croatia, presented an elegant study on fluorine-18-FDG coincidence imaging in patients with lymphoma. In 2000, hybrid/coincidence devices seemed to be a gadget. In 2002 they occupied 30% of the market and by 2003, slightly more than 50%. However, the discussion on whether this is a “tool or toy?” is still ongoing. Therefore, the impact of this imaging on further treatment modifications is a very “hot” issue and the results of this report are very important. It is an interesting view in hot debate on the superiority of dedicated versus hybrid PET imaging.

Some papers were devoted to scintimammography: Malešević et al. based on a series of 31 scintimammographies, proposed some interesting clinical conclusions on the indications and interpretation of this study. In general, scintimammography has had the bad luck to have been underestimated and this interesting modality since birth, has had little confidence among clinicians. I believe that technical and interpretation standardisation, together with establishing the diagnostic algorithms positioning the role of scintimammography world-wide, could be of huge benefit.

A similar study was presented by a group from Banja Luka.

Vidregar-Kralj et al. from Ljubljana, Slovenia presented an interesting report on the radioguided intra-operative localisation of small colorectal lesions. This technique has gained major importance and is an interesting opportunity and challenge for the nuclear medicine community to improve its importance among oncologists, both in detecting local lesions and in sentinel node localisation.

Regarding in-vitro methods, Lemberger from Subotica presented a simple but elegant study on the old, but still debated issue on the prognostic role of CEA in colorectal carcinoma.

Neurology

There were very few neurological studies.

In the paper from the border of radiopharmacy and oncological neurology Bandopadhyaya et al. from India discussed the potential role of Tc-99m methionine in brain tumour imaging. This would be a very good news, but further studies seem to be badly needed.

Rep et al. from Ljubljana, Slovenia, presented an interesting overview on RN determining brain death. This is an issue frequently underestimated in Europe and worthy of being disseminated in practice. From my own practice, I know at least three cases when the potential donor recovered from coma months following its onset. Therefore, these studies were very beneficial.

Digestive tract

A fine paper on salivary scintigraphy was presented by Ugrinska and colleagues from Skopje, Macedonia. This is a very important, although somewhat underestimated technique in the difficult field of xerostomia. The authors underline the importance

of analysing the particular indices. The only doubt I had was their choice of a group of patients with drug-induced xerostomia. Is this really the most important and differential diagnostics demanding group of xerostomia syndromes?

A group of Obradovic et al. from CCS, Belgrade presented a very interesting paper from the border of NM and basic sciences/pathophysiology on the secreting of gut hormones during particular gastric emptying studies.

A study on the usefulness of hepatobiliary scintigraphy in liver transplanted patients also came from the same centre.

Infection and inflammation

A number of papers on radiolabelled ciprofloxacin was presented by a group from the Clinical Centre of Serbia.

Extensive clinical studies of radiolabelled ciprofloxacin in the evaluation of orthopaedic infections were presented by Obradovic, Artiko et al. from Belgrade and the Vinca Institute as well as one in detecting abdominal infection, also by Artiko et al. Inflammation scintigraphy is one of the major challenges and opportunities of nuclear medicine today and several radiotracers are employed. Therefore, this very careful and thorough study, showing almost 100% sensitivity (if we exclude patients with TB or drug-resistance) would benefit a lot from a crossing with some other radiotracer studies (eg. leukocyte antibodies).

A similar study was presented by Janković and colleagues on bone and soft tissue infections.

A study by Nikolic et al. was devoted to the technical aspects of ciprofloxacin radiolabelling.

Janković et al. proposed ^{99m}Tc-pyrophosphate as an infection imaging agent. This seems to need further *in vivo* studies.

Kidney

Beatovic et al. from Belgrade analysed the utility of blood flow quantification in kidney transplant patients and potential donors. Again, this very interesting study would benefit from being crossed with more traditional RN imaging techniques (GFR, ERPF).

Two papers, on the border with pathophysiology/basic sciences, dealt with the functional aspects of an angiotensin blockade.

Radiopharmacy

Several presentations were focused on radiopharmaceuticals, many of being them performed as co-operative studies with the “Demokritos” Institute from Athens.

Djokić et al. showed the improvement of hepatobiliary scanning in rats using carbonyl tagged EHIDA complex.

From the same centres, Vranješ-Durić, Melpomeni et al. presented a study on ¹⁵³Sm (β -particle-emitter) labelled antibodies, a pleasant, if successful, alternative to e.g. ⁹⁰Y.

Jakšić et al. analysed ^{99m}Tc-p-aminohippuric acid (^{99m}Tc-PAH), as a new and promising renal agent.

A set of papers was devoted to bone-seeking agents. This is a very promising research approach as radionuclide therapy and, in everyday practice, particularly bone metastases radionuclide therapy has given a significant boost to nuclear medicine. New bone-avid therapeutic agents are badly needed.

A group led by Pirmettis et al. from Athens and Belgrade analysed the radiopharmaceutical aspects of ^{186}Re labelling.

Vucina from the Vinca Institute presented a lecture on $^{99\text{m}}\text{Tc}$ and $^{188}\text{W}/^{188}\text{Re}$ generators. Generator-obtained ^{188}Re is a very promising therapeutic agent and interesting pros and cons were presented. The crucial problem to be overcome with rhenium-188 still is a matter of a low specific activity of the eluate and the problem of its condensation.

Djokic and colleagues presented some practical aspects of rhenium production.

In the same area, an interesting study on ^{177}Lu was contributed by Kumrić et al. from the same centres. ^{177}Lu -Lutetium seems a very promising alternative to eg. ^{513}Sm as a therapeutic agent.

Haematology

Todorović-Tirnanić and colleagues analysed platelet kinetics in the area of platelet labelling quality control. They raised the superiority of initial in vivo kinetics as a controlling parameter.

A paper comparing two methods for optimal red cell mass and plasma volume estimation came from the same group.

Radioprotection

A number of reports of radioprotection in RIA laboratories was presented by a group from MMA, Belgrade. These useful studies underline the role of radio-contamination in that somewhat forgotten field, indicating some practical measures to be employed.

Instrumentation

In an interesting survey "Current state and perspectives of apparatus base for modern SPECT" Gektin and colleagues presented their knowledge of the development of NM instrumentation in Ukraine.

Gammacamera quality control aspects were raised by Vuleta from Banja Luka.

Concluding remarks

I would like to conclude this lecture with some of my own personal reflections on the situation of nuclear medicine in Serbia.

It is the third Congress which I have attended.

What I like, respect or perhaps admire, is the vitality, dedication and skill of this nuclear medicine community. Working in difficult conditions, with a shortage of equipment, service and radiopharmaceuticals, not to mention the turbulent historical events, the S&MN nuclear medicine community has managed to achieve a scientific output in many cases bigger and better than some countries which are more affluent and privileged by history to live in more stable conditions.

To support this thesis let me show you the statistics of papers which came from Central and Eastern Europe, presented at the recent EANM '03 Congress in Amsterdam (Tab. 1). Papers from Serbia occupied a remarkable amount of space, especially when compared with Hungary, probably the strongest NM community in the area or e.g. Slovakia.

Table 1. EANM Congress 2003' CEE regional papers' statistics

Country	Oral presentations	Poster presentations	Total
Poland	13	20	30
Hungary	6	15	21
Serbia & Montenegro	4	14	18
Russia	2	13	15
Slovenia	2	9	10
Croatia	2	5	7
Czech Republic		16	16
Bulgaria		7	7
Ukraine		4	4
Romania		2	2
Bosnia		1	1
Slovakia		1	1
Total	29	107	136

One might say "Serbians — they try harder". Yes, they certainly do. Overcoming the difficulties of today, it is probable that this community, when given sufficient support from the international nuclear medicine community, EANM, IAEA, etc. will surely increasingly contribute to our common goal which is to benefit the patient, to benefit science as well as the state of international nuclear medicine.