

# Flushing out isotopes

## Col.dr.eng Ion Savu, Commander, and Col.dr.bioch Constantin Stan, Project Manager, of the Romanian Scientific Research Centre for NBC Defence and Ecology, unveil a new pharmaceutical decontamination product which might have saved Litvinenko

Accidental or provoked internal contamination with radioactive heavy metals (depleted uranium, polonium and radionuclides) or other heavy metals (cadmium, barium, mercury, lead, etc), and also medical use of radiopharmaceutical products (phosphor, chromium, iron, strontium, technetium, iodine, colloidal gold etc) represent a very difficult test for the medical personnel who care for and provide decontamination treatment for irradiated patients.

In 30 years of scientific research and documentation, Col.dr.bioch Constantin Stan has obtained evident and certain results regarding the biophysical and biochemical mechanism of *in vivo* decorporation of radiotoxic uranium, heavy metals and others noxious chemicals. Starting in 1995 the author, as project manager, initiated, directed and developed the scientific research on a pharmaceutical product for the treatment of lesions induced by irradiation.

The non-clinical (pre-clinical) pharmacology research in the area of nuclear medicine developed and performed on 635 standard animals (rats, mice, rabbits and guinea pigs) in concordance with the current regulations and settlements of the Romanian National Drug Agency, led to a final conception – and a patent – in 1996 of the biologically active composition of the pharmaceutical product which displays a high and efficient role in radiobiochemical decontamination of radiotoxic uranium ( $^{235}\text{U}$ ) and heavy metals.

The pharmacology research, in several pilot clinical studies on a human case of insidious (aggressive) contamination with heavy metals, has been carried out by Col.dr.bioch Constantin Stan, along with medical, pharmaceutical and biochemical didactic specialists from the Laboratories Departments of Pharmacology, Phytochemistry,

Biochemistry, Organic Chemistry and Pharmaceutical Technique of the University of Medicine and Pharmacy “Carol Davila”, Bucharest.

The originally patented compound is named Stanosimagine PP 6-006. After patenting the composition, the author of the pharmaceutical product conducted a series of interdisciplinary studies in the fields of radio-biochemistry and medical and pharmaceutical biochemistry in the Laboratory of Analysis of the Radioisotopes Research and Production and the Laboratory of Biophysics and Radiobiology of the National Institute for Physics and Nuclear Engineering “Horia Hulubei” Bucharest, and in the Laboratories Departments of the University of Medicine and Pharmacy “Carol Davila” Bucharest.

At the same time, quality analyses were performed by means of instruments in the laboratories of the Scientific Research Center for NBC Defense and Ecology, Bucharest, and the histological determination and local dermal tolerance tests were completed at the Laboratory of Histological Analyses of Pathological and Normal Morphology of Medicine Faculty of “Ovidius” University, Constantza, and also at the Pathological Anatomic Department of the Veterinary Medicine Faculty, University of Agronomic Science and Veterinary Medicine, Bucharest.

The internal radiobiological decontamination of uranium (radionuclides) and heavy metals always represented a great challenge to scientific researchers for the NBC Medical Protection domain. The noxious chemicals, such as radioisotopes or heavy metals, are latent-cumulative in areas at risk from irradiation. They accumulate in the living organisms and affect the personnel exposed to nuclear techniques in conflict or terrorism areas, or to accidents, incidents, professional or medical irradiation. The internal decontamination is a difficult process to achieve and control. The fundamental research for *in vivo* internal decontamination of uranium is based on verified and evident results, obtained in scientific experiments on standard animals, where uranium ( $^{235}\text{U}$ ) was used as a contaminant agent within competition research in the area of the Nuclear Medicine.

The experimental research sustains and describes reference data and results from the research meant to obtain new and efficient biologically active products for radiobiological and chemical decontamination of uranium radionuclides and noxious chemicals. The applicative research on specific activity started with pre-clinical studies of the Stanosimagine pharmaceutical product to verify its decontaminative and restorative effects. To determine the specific radio-protective activity of the Stanosimagine capsules on *in vivo* radiobiological and chemical decontamination of uranium ( $^{235}\text{U}$ ), the analysis method using the activation with thermalised neutrons was applied (Figure 1-2).

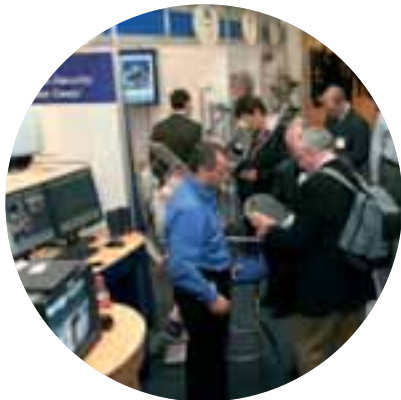
The release and retention of  $^{235}\text{U}$  by tests on animals' organs: kidneys, lungs, liver, spleen and the rest of the body have been focussed on. The coloured micro-map used in uranium ( $^{235}\text{U}$ ) tracking analysis is brought out into a high a three-dimensional (3D) image of the beginning of the pre-tumour forms within contaminated blood composition (Figure 1). It was noticed how the inclusions of uranium nucleus, as radiotoxic and a heavy metal, became a coagulation factor of blood components, which have been damaged or destroyed – subsequent to precipitation reaction in a 3D radial chain – and included in a cumulative spherical projection. The analysed inclusions of uranium had a spherical or ovoid 3D projection within all the examined samples.

The multitude of data examined through experiment and the complementary analysis of the coloured micro-map (Figure 1) certify



© DoD

*Internal decontamination is not usually considered viable*



**International Security  
National Resilience  
EXHIBITION & CONFERENCE**

**L o n d o n**

Conference 3 – 5 December 2007  
Exhibition 4 – 5 December 2007  
National Hall, Olympia

[www • isnrlondon • com](http://www.isnrlondon.com)

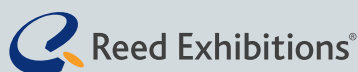
## THE integrated event for INTERNATIONAL SECURITY

ISNR is the only event to open up the international Homeland Security market, giving you access to all the government and private sector stakeholders responsible for sourcing and purchasing products and solutions for security, border protection, counter terrorism and resilience.

ISNR Incorporates



Organised by



Supported by



*For further  
information about  
ISNR London please  
contact:*

**Michael Gilbert**  
TEL: +44 (0)208 910 7015  
FAX: +44 (0)208 910 7848  
[michael.gilbert@reedexpo.co.uk](mailto:michael.gilbert@reedexpo.co.uk)

[www.isnrlondon.com](http://www.isnrlondon.com)

Media Partner



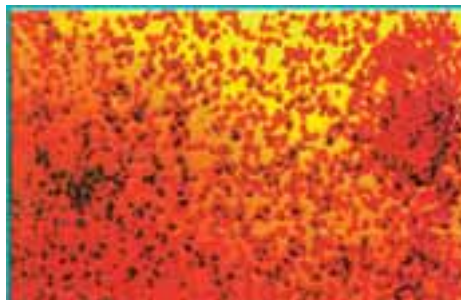


Figure 1, above

and support the hypothesis of accelerated obstruction of renal filters by the radiotoxic precipitation induced by the uranium ( $^{235}\text{U}$ ), supplemented with biochemical chelating processes, as a coagulation effect. An activation of endocrine functions for release that developed an accelerated "rejection" out of the body of uranium ( $^{235}\text{U}$ ), considered as a "chemo-toxic agent" has been noticed on the basis of tests and radio-biochemical analysis data (Figure 2), upon the treated group animals at identical time intervals. The analyses of the tracks' micro-maps of the fragments from the neutron-induced fission of the  $^{235}\text{U}$  in urine (Figure 2) and faeces conducts us to a new discovery consisting of a differentiated presence (Figures 2-4) of  $^{235}\text{U}$  nucleus inclusions up to the optimal release moment as half biologic time  $T_{b1/2}$  of the decontaminant effect. Obviously, the inclusions of the  $^{235}\text{U}$  nucleus within the daily release becomes rare (Figure 2), and even smaller in the treated group in comparison with the rarefied number of inclusions, up to isolated uranium nucleus within untreated group "control-cases", from daily samples.

The scientific novelty, experimentally tested and pre-clinically verified, sustains the concept of radiobiological decontamination of the uranium ( $^{235}\text{U}$ ), radionuclides and other chemical noxious substances using treatment with an active biologic composition, based on synergic principle of compensation for the hydro-minerals shortcoming. This treatment has restorative effects, due to the fact that it determines a simultaneous de-precipitation and de-coagulation of pre-tumour forms embedded in blood, having an reversible action on chelating and de-chelating biochemical reactions.

Experimental data shows that the kidney is the critical organ, which retains specifically the highest quantity of uranium ( $^{235}\text{U}$ ) in comparison with other organs. Using a treatment of Stanosimagine, the kidney immediately and maximally responds positively in comparison with the untreated group. The first pilot clinical study on a poisoned human case, insidiously and aggressively contaminated with heavy metals has been carried out. In accordance with the above statements here we present a clinical case of *in vivo* biochemical decontamination from the body of heavy metals, mercury and lead.

Patient C.P. (f37y), in very seriously altered health, had a diagnosis of "intoxication with mercury (Hg) and lead (Pb)", following the clinical tests done in Colentina Clinical Hospital, Bucharest, which showed 49µg-Hg/l-blood and 975µg-Pb/l-blood. The classic treatment with EDTA was recommended in daily perfusion cure for ten days. Due to

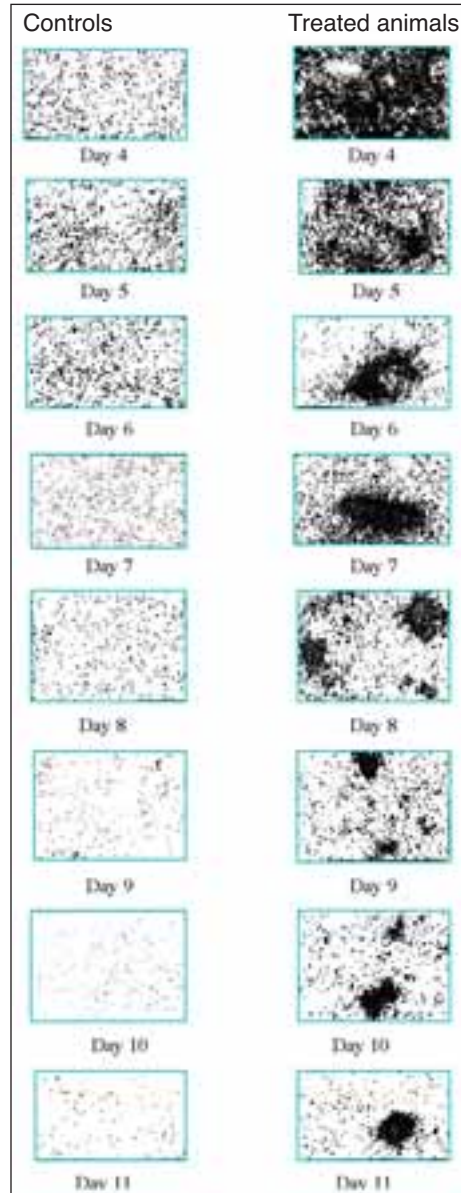


Figure 2, above

the fact that, after two perfusions, her health condition was intensely complicated, the EDTA treatment was dropped. The test done after EDTA perfusions showed a very small elimination (5µg-Hg/l-urine), which demonstrated that the intoxication with mercury and lead was still present. Severe renal and skin lesions visibly externalised, and acute neuromuscular leg instability began to appear.

The treatment with Stanosimagine capsules and ointment, under these circumstances, was recommended and applied: ten capsules and 5g-ointment for five days, without any dietary conditions; two capsules orally in the morning and in the evening and 1g-ointment/day on the skin lesions, on the dermal zones affected. The result of the Stanosimagine treatment was certain and evident. The patient's health restored while she was on this new treatment. The primary effect was that the treatment reinitiated the elimination of Hg and Pb in urine. The lab test showed 33µg-Hg/l-urine and 45µg-Pb/l-urine.

The patient was asked to repeat the treatment for other 5 days with Stanosimagine capsules and ointment, under the same prescriptions. The elimination of Hg and Pb in urine in the lab test showed 29µg-Hg/l-urine and 45µg-Pb/l-urine. As restorative effects, the results of the blood and urine analyses showed that all the biochemical parameters came back to normal.

The third cure-treatment was requested and applied successfully. After regaining her health, the laboratory tests done at Colentina Clinical Hospital, Bucharest, regarding the decontamination of Hg and Pb, showed at the end of treatment, as well as after three months and six months respectively, a decreasing concentration of Hg that was lower than before 14µg-Hg/l-blod and trace-Pb/l-urine, as determinate heavy metals

concentrations below 0-25µg-Hg/l-blod, which is the accepted conventional health limits.

The *in vivo* biochemical decontamination of heavy metals such as mercury (Hg) and lead (Pb), from the body and the active biological restoration have been the final results of the Stanosimagine treatment, with only 30 capsules and 15g ointment, in this case.

The results obtained led to the possibility of administrating Stanosimagine in cases of accidental contamination with other radionuclides besides uranium ( $^{235}\text{U}$ ), such as polonium ( $^{210}\text{Po}$ ), thallium ( $^{204}\text{Tl}$ ), etc. The implementation of Stanosimagine on the pharmaceutical network implies continuation of clinical studies and tests in concordance with the worldwide pharmaceutical regulations and settlements of the Romanian National Drug Agency.