

Third Coordination Meeting of WHO Collaborating Centres
in Radiation Emergency Medical Preparedness and Assistance
(Leningrad, 21-24 May 1990)

MEDICAL ASPECTS OF THE ACCIDENT IN GOIANIA: AN UPDATE*

1. Introduction

On 13 September 1987, two scavengers inadvertently removed a teletherapy device containing a 50.8 TBq (1375 Ci) caesium source from a clinic in Goiania, Brazil.

Approximately 250 people were directly affected by the radiation. Partial or whole body external irradiation ranged from slight to very severe. Internal and external contamination also occurred.

Fifty persons involved in the accident showed clinical symptoms associated with whole body and/or local acute irradiation. They were also subject to external or internal contamination, the latter being mainly due to ingestion of ^{137}Cs .

Fourteen of those 50 developed moderate to severe bone marrow injury characterized by neutropenia and thrombocytopenia. Eight of these 14 received GM-CSF (granulocyte-macrophage colony-stimulating factor) intravenously. None were submitted to bone marrow transplantation. Four of these 14 died due to bleeding and infection (sepsis).

Prussian Blue was administered in doses ranging from 1.5 to 10 grams per day to the patients with significant internal contamination evaluated by "in vitro" and "in vivo" assays. Besides Prussian Blue, other measures were taken to increase decorporation of ^{137}Cs , including the administration of diuretics, water overload and ergometric exercises.

About 103 persons are being followed prospectively in accordance with a medical protocol designed by NNEC and Fundacao Leide das Neves Ferreira (FUNLEIDE).

Radiation induced skin injuries were observed in 28 patients. Such injuries were observed in 19 out of 20 hospitalized patients. Six patients underwent surgical intervention and the others were treated by conservative methods.

* prepared by the WHO Collaborating Centre in Brazil, on the basis of a paper by Brandao Mello, C.E., Farina, R., & Oliveira, A.R.