

EXPERIENCES WITH RADIATION INJURIES REQUIRING MEDICAL MANAGEMENT IN JAPAN

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We who provide medical care in Japan have encountered three types of radiation injuries: occupational radiation injuries; injuries from radiation therapy; injuries caused by nuclear weapons or tests.

Large nuclear energy facilities, such as power stations, have full-time medical staff trained in the medical management of exposed and injured individuals. However, there are few opportunities for the staff to use their training. The Chernobyl experience was an extreme and special case. On the other hand, radiographic gamma sources, analytical x-ray equipment, and other radiation generators are often used in medium-sized or small facilities, and overexposure requiring medical management may be more likely. In treating injuries from such facilities, a general practitioner may have the responsibility for early management. However, these physicians usually have not had prior contact with the management of the facility. In Japan, distribution of large nuclear power stations is geographically limited, but many medium and small facilities that use radiation equipment are located all over the country.

Early medical management of accidental overexposure of the skin is essential. Based on experience, I believe that a knowledge of medical management of the early stage of radiation skin injury is the minimum requirement for general practitioners.

GUIDELINES

Guidelines on treatment in the early stage of radiation skin injuries are as follows: (1) absolute immobilization of irradiated part; (2) protection against all types of stimuli ie, chemical, physical, mechanical, biological; (3) application of mild ointment such as simple oleaginous ointment; (4) frequent and careful clinical observation; and (5) detailed instruction for the patient and family.

Two problems in treating accidental radiation skin injury are the difficulty of knowing the precise dose of radiation, especially that caused by analytical x-ray equipment, and in some cases the longer-than-expected latent period. The quality of medical management during the latent period greatly influences the prognosis. I will show the stages of injury and recovery in two patients who suffered inadvertent radiation skin injuries due to overexposure to analytical x-ray

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