

Acute effects (213-217)

213 Clinical course of Radiation Injury by Radiation Accident

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A 36-year-old male that encountered radiation accident in the right palm is presented.

On April 28th 1994, he received a X-ray of 50kV, 200mA with a suspected dose of 100-200Gy to the right palm and fingers during the checking of the X-ray analyzer. On May 16th 1994, about 20 days after the exposure, he came to our out-clinic, when the right palm showed white blister measuring 6cm by 3cm surrounded by redly erupted margin of 1cm. All the right finger tips beyond PIP became dark red.

Steroid and anti-thrombosis agent as well as antibiotics were administrated daily intravenously. Beraprost sodium tablets and various ointments including steroid and tissue activation agent were given. The right palm became erosive for a while. But at the end of June it got covered by the normal looking skin. He discharged at the end of June, and the skin condition looked favorable next three months. Although the right palm showed telangiectasia and the right thumb nail became hypertrophic, the symptoms are stable at present. Angiography and thermography performed 12 months after the accident revealed no abnormal findings.

In the presentation, clinical course and treatment for radiation injury are focused.

214 Acute Irradiation Injury and Autonomic Nervous System

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To evaluate the effects of the autonomic nervous system to acute irradiation damage and radiation sickness, spontaneously hypertensive rat (SHR) which is a model of human essential hypertension and present a state of hyperfunction of sympathetic nervous system, is exposed to whole body irradiation of X-ray, 7.5Gy, and observed from 2hours to 9th day after irradiation. Changes of blood pressure of SHR after exposure was larger than that of Wistar Kyoto rat (WKY), normotensive control. Macroscopic and microscopic pathological damages by irradiation were also severer than those of WKY. Changes of tissue-contents of catecholamine, acetylcholine and SODactivities will be also reported in this reports.