Radiograph Abnormalities Caused by the Nuclear Accident

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Picture 1.

Picture 2.

We took a plain radiography of a patient on the morning of March 13, 2011, which was the day after the occurrence

of the nuclear accident in Fukushima (1). We found an unusual black dot of several millimeters in diameter on the film (Picture 1). We also found similar black dots on the same day by developing an unused imaging plate (IP) stored in the hospital (Picture 2), and they disappeared by cleaning the surface of IPs. Our hospital in Minamisoma is located 23 km north from the Fukushima Daiichi Nuclear Power Plant, and the ambient dose around was 20 microsievert per hour at 8 pm on March 12. We speculate that the radioactive material, so-called “hot particles” consisting of cesium released from the plant caused radioactive contaminations through the air-conditioning system (2). These abnormalities were useful to estimate contaminations without monitoring devices under the chaotic state just after the radiation disaster.

The authors state that they have no Conflict of Interest (COI).

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