

放射光の臨床応用の可能性について

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Clinical Application of Synchrotron X-Rays

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<Synopsis>

It has been reported that a combined treatment involving radiation and anticancer agents including platinum is useful for the anticancer treatment, because of the platinum absorbing the X-rays and releasing secondary electrons. However, platinum can absorb only an X-rays with a specific energy, whereas the X-rays used in clinical medicine are white X-rays. Moreover, the dose of anticancer agents is limited owing to their unpleasant side effects. We are attempting to develop a novel chemoradiation treatment system with high specificity and high cytotoxicity, by replacing white X-rays with monochromatic X-rays, and using an active targeting drug delivery system to increase the platinum concentration in cancer tissue. And then I will talk about the potential of synchrotron X-ray in the imaging machine.