

Study on biologic effects of radon and thermal therapy on osteoarthritis.

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Radon therapy uses radon (^{222}Rn) gas, which mainly emits alpha-rays and induces a small amount of active oxygen in the body. We first examined the temporal changes in antioxidants, immune, vasoactive, and pain-associated substances in human blood by therapy to elucidate the mechanism of osteoarthritis in which radon therapy is used as a treatment. Results showed that radon inhalation enhanced the antioxidation and immune function, and the findings suggest that radon therapy contributes to the prevention of osteoarthritis related to peroxidation reactions and immune depression. Moreover, the changes in vasoactive and pain-associated substances indicated increases in tissue perfusion brought about by radon therapy, suggesting that radon inhalation plays a role in alleviating pain. PERSPECTIVE: The findings suggest that an appropriate amount of active oxygen is produced in the body after radon inhalation, and this contributes to the alleviation of the symptoms of active oxygen diseases such as osteoarthritis.