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문의	광주과학기술원(GIST) 생명과학부 전장수 교수(062-715-2497) 전남대학교 치의학전문대학원 류제황 교수(062-530-4863)		

[Published in *Nature*] Professor Jang-Soo Chun's joint research team discovers that degenerative osteoarthritis is caused by cholesterol! (Ministry of Science and ICT)

- According to the Ministry of Science and ICT, GIST (President Seung Hyeon Moon) Professor Jang-Soo Chun and Chonnam National University Professor Je-Hwang Ryu who received his master's and Ph.D. from GIST's School of Life Sciences have determined that cholesterol * is the cause of degenerative osteoarthritis * in joint cartilage.

* Cholesterol is a type of fat component essential for the maintenance of life, but it can also cause a variety of diseases such as arteriosclerosis and dementia.

* Osteoarthritis: A disease in which joint cartilage is destroyed, causing inflammation and pain as the cartilage protecting the joint degenerates.

- The results of this research were published in the February 7, 2019, issue of *Nature*, the world's top scientific journal.

※ Name of paper: The CH25H-CYP7B1-RORα axis of cholesterol metabolism regulates osteoarthritis

※ Main Authors: Professor Jang-Soo Chun (co-author, Gwangju Institute of Science and Technology), Professor Je-Hwang Ryu (co-author, Chonnam National University), Dr. Wan-Su Choi and Gyuseok Lee (co-first authors, Gwangju Institute of Science and Technology)

- Degenerative arthritis is caused by gradual and non-reversible damage to the cartilage between joints and is a typical degenerative disease that lowers the quality of life. However, a clear cause of the disease has not previously been identified, and fundamental prevention and treatment options have not been developed.
- The researchers found that cholesterol was abnormally high in the degenerative cartilage when compared to normal cartilage, and the increased cholesterol metabolism resulted in a series of processes leading to degenerative arthritis.
- Professor Jang-Soo Chun and Professor Je-Hwang Ryu said, "The study found that degenerative arthritis is not merely an incidental disease caused by aging, but a metabolic disorder that is actively caused by cholesterol metabolism, like atherosclerosis. This is expected to provide new clues for the prevention and treatment of degenerative arthritis."
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