

Rheumatoid Arthritis, Sleep and Adult lifestyle-related Diseases

Dr Masatoshi Shimizu, PhD, Rheumatologist
Hino Hospital, Osaka, Japan

It has been nearly four years since the sleep study I started on rheumatoid arthritis patients in the Rheumatism Department got into full swing. First of all, I was surprised to learn that Obstructed Sleep Apnea Syndrome (OSAS) existed among more than 50% (53%) of rheumatic patients. (In general, the frequency of Sleep Apnea Syndrome is said to be approximately 4%.) The good news for SAS patients are that remarkable improvements were seen in rheumatoid arthritis by treating it with Continuous Positive Airway Pressure (CPAP therapy) while sleeping. There were also patients who could discontinue their medication entirely. However, I regret to say that was not true for all patients with SAS who had undergone CPAP therapy, but about one in three. The main reasons why we could not obtain good results were that even if patients had attached the CPAP, they would unconsciously remove it while sleeping, or they could not attach the CPAP regularly every night due to the unpleasantness of wearing the mask.

However, it was later discovered that patients who had refused using CPAP could in fact achieve the effect of sleep improvement. This was made possible with concomitant use of the Myofunctional Therapy Device, the training of muscle around the oral cavity, designed by Dr. Yoshiaki Akihiro. However, unlike the CPAP, the effect of improvement will not be evident within 2-3 months. The symptoms of rheumatoid arthritis will decline gradually after continuous usage of at least six months. Then after about one year, a clear sleep improvement can be seen, such that patients sleep soundly until they wake up in the morning as snoring stops, or patients who used to get up in the midst of night for urination twice nightly do not even get up once. These take place alongside the amelioration of rheumatism symptoms.

This change is thought to be due to the airway becoming wider while sleeping by decreasing the amount of flesh at the back of the throat with the training. This method is effective in almost all rheumatoid arthritis patients and it is far more general compared with the CPAP therapy, which achieves only about 30% success for patients in reducing the effects of rheumatism. With this method, patients can easily continue their training without much pain and suffering as long as they have the motivation to do so. Compared with the CPAP which adopts a high-cost gadget with a built-in microcomputer, muscle training around the orbicularis oris uses a simple tool costing less than US\$100 per unit seems far more low-cost, though here the low-cost seems to surpass the high-cost.

I forecast that the effective sleep scientific approach to rheumatoid arthritis will be highly effective for high blood pressure and diabetes. There is even a possibility that this will become the most realistic solution for old peoples' dementia too. This is because the major factor for old peoples' dementia is that the maintenance of normal brain function is obstructed by the arousal reaction caused by the hypoxemia and frequent breathing disorder while sleeping.

A modern medical treatment based on medicine which accomplished advanced development in the 20th century seems to progress on the road of the high cost, and is thought to be facing the different direction from the image of geriatric medicine which our country should be going in the future. On the other hand, since entering the 21st century, it has become fairly easy to apply sleep science in a clinical setting as a result of extremely cheap computers with better performance. I think that uniting sleep science with low technology can become one of the medical solutions to dementia and lifestyle-related diseases.