Shiraishi Cardiovascular Clinic

The FMD test is more effective in patients without subjective symptoms.

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Qualifications:
Japanese Society of Phlebology, Council member
Japanese College of Angiology, Certified angiology specialist
Japan Surgical Society, Certified surgical specialist
Japanese Circulation Society, Certified circulatory specialist
Japanese Society of Gastroenterological Surgery, Certified medical doctor

Registered societies:
Japanese Society of Phlebology
Japanese College of Angiology
Japan Surgical Society
Japanese Circulation Society
Japanese Society of Gastroenterological Surgery
Japanese Society for Cardiovascular Surgery
Japanese Society for Vascular Surgery

It is important to slow the progression of arteriosclerosis in order to extend healthy life. If obesity, stress, sleep disorders, smoking, excessive alcohol consumption, lack of exercise, irregular lifestyle, and unbalanced diet accumulate, blood vessels will be damaged without being aware of it, and one day, a stroke or myocardial infarction will suddenly occur.

People with a family history of complications at a young age should be especially careful. However, some people are more nervous than necessary and easily jump into health foods and supplements.

We start with an examination with low burden to the body to find out what your own current condition is and the state of your blood vessels. We make it one of the pillars of our practice.

The impetus for introducing FMD test was Virchow's triad

"Virchow's triad" is known as the factors that lead to clogged blood vessels. (Table 1) Vascular endothelial function is particularly important, and not only lifestyle-related diseases, but also metabolic syndrome, smoking, excessive alcohol consumption, lack of exercise, and increased stress can cause a decline in vascular endothelial function, leading to the development of arteriosclerosis. We therefore wanted to introduce the FMD test, which can objectively evaluate vascular endothelial function.

Virchow's triad

Rudolf Virchow: 1821-1902

(1)Vascular endothelial cell damage
… Damage to the inside of blood vessels

(2)Slow blood flow
… Blood becomes sluggish and stagnant

(3)Alteration of blood properties
… Blood becomes more likely to clot

These are still considered the three factors of pathological thrombus formation and remain the central concepts in elucidating the pathogenesis of arterial and venous thrombosis more than 150 years later.

Table 1 Virchow's triad

Use in daily medical practice

Since its introduction, we have been performing the FMD test in combination with PWV on patients suspected of having lifestyle-related diseases.

For patients who came to our clinic asking for arteriosclerosis examination, we also performed carotid artery echocardiography and digital volumetric pulse wave for a comprehensive evaluation.

Patients with risk factors for arteriosclerosis are given guidance on smoking cessation, diet and exercise, and are also started on drug treatment, and FMD is used as one of the indicators of treatment effectiveness.

In one case, a patient who had a smoking habit and whose FMD was in the 1% range actually improved to 2.8% in about 2 weeks after being instructed to quit smoking and to reduce his alcohol consumption and putting it into practice.

Recently, findings have also begun to emerge that impaired vascular endothelial function may be a common cause of not only arteriosclerotic diseases but also venous diseases such as deep vein thrombosis and venous cancer.

In my life's work, day treatment of venous cancer of the lower extremities, endothelial function evaluation is expected to become increasingly important.

Effective Utilization Example of UNEXEF

Improvement of vascular endothelial function by Lotriga, an EPA and DHA preparation

The FMD test result was less than 5%, and patients who agreed to take Lotriga for 3 months in addition to the conventional prescription were given another FMD test 3 months later.

Blood tests were also conducted before and after taking the drug, and triglycerides (TG), HDL cholesterol, and LDL cholesterol were also examined.

Since OEPA is known to improve vascular endothelial function, I was sure that Lotriga would also improve the FMD.

The FMD improved significantly from 3.1± 1.1% to 4.9± 1.6%, as expected .(Figure 1)

In terms of lipids, TG showed a slight decreasing trend, but no significant difference. (Figure 2)

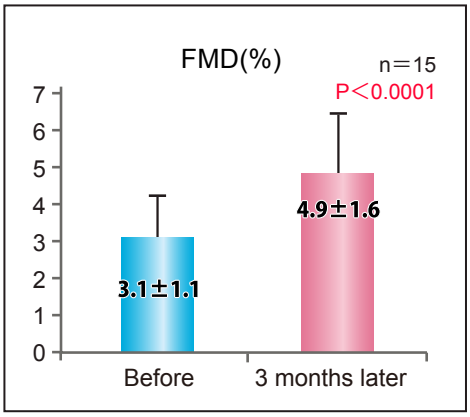

Figure 1 Improvement of FMD by taking Lotriga

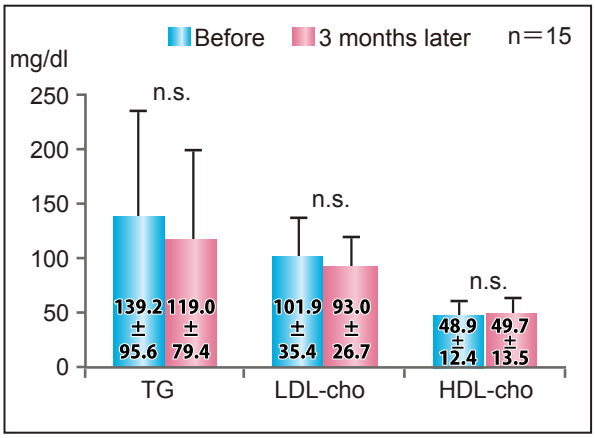

Figure 2 Change of lipids by taking Lotriga

It is more important to have a visible therapeutic index in patients who have no subjective symptoms.

Thus, when I tell patients about the treatment effects, they seem very encouraged to see the improvement.

When I tell them that their FMD is getting better and ask them if they want to continue taking the medication, most of them want to continue and are still taking it.

One patient started taking Lotriga in February 2013 and subsequently underwent the FMD test in August and November of the same year while continuing to take the drug, confirming that his numbers had improved over time. (Figure 3)

I don't think this is limited to Lotriga, but I think treatment index like FMD are more important for patients who don't have subjective symptoms.

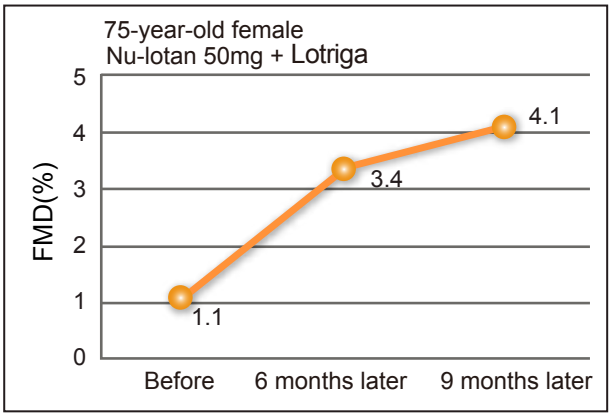

Figure 3 Change of FMD by taking Lotriga

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