Chronic Venous Insufficiency and Swollen Legs Case Report – Ms. D.C.

Ms. D.C. is a 68-year old female office administrator who had been suffering from persistent swelling in her bilateral lower extremities for several years. She had been diagnosed with Chronic Venous Insufficiency (CVI), a condition that is caused by the inability of the distal veins in the legs to pump blood back towards the heart. Due to venous stasis or the slowing of blood flow in the veins, CVI is characterized by swelling at the ankles, a feeling of tightness or heaviness in the calves, and pain during walking. It can be associated with varicose veins which cause skin changes and the potential for ulceration in severe cases. Her medical history is remarkable for bilateral osteoarthritis of the hips and Class II obesity. Consequently, Ms. D.C.’s mobility is very limited.

CVI arises from damage and compromised function of the deep veins within the legs. Venous thrombosis (blood clots), advanced ageing, sustained sitting, and reduced mobility generate damage to the valves of the deep veins. In Ms. D.C.’s case, her age combined with her limited movement due to the nature of her work and her coexisting medical conditions have made a multifactorial contribution to the weakening of her venous valves. Specifically, the valves are no longer able to prevent the backflow of blood into the legs. As a result, there is increased pressure in the veins which perpetuate the signs and symptoms of CVI. The ongoing incompetency of the valves had created the severe edema she was experiencing around the ankles.

Ms. D.C. had struggled with the management of CVI. She was advised to avoid prolonged periods of sitting during the day. However, this proved to be difficult given the constant pain in her joints and her job duties. She had attempted a trial of massage therapy to reduce the swelling in her legs but the outcomes were suboptimal. She had also been utilizing compression stockings intermittently over several years with limited success. Compression stockings are frequently prescribed to manage the signs and symptoms associated with CVI. However, Ms. D.C. found it difficult to be compliant due to the discomfort they created along with difficulties with their application and maintenance.

She had also undergone sclera therapy where a solution was injected into her veins. This intervention improved the appearance of her varicose veins but did little in terms of her swelling and discomfort. Unfortunately, her treatment team had observed that her condition was progressing as evidenced by leathery and flaky skin at her legs.
Approximately 14 months ago, Ms. D.C. was introduced to the Venowave.

The Venowave is classified as a Mobile Compression Device (MCD). MCDs represent a type of mechanical compression in which varying levels of pressure are cyclically generated around the lower limb to mimic the pumping action of the vascular system.

Most mechanical compression devices require an external power source that renders the patient immobile during treatment periods. Furthermore, these devices typically operate through rapidly inflating bladders resulting in an unpleasant sensation that can interfere with compliance.

In contrast to conventional devices, the Venowave utilizes a highly tolerable patented waveform motion to mobilize stagnant deoxygenated blood in the lower legs.

The Venowave is also lightweight, simple to wear and operate, and is powered by two AA batteries. Ms. D.C. was able to seamlessly integrate the Venowave into her daily life.

Clinically, it was observed that the swelling in her legs was reduced within weeks of initiating use of the Venowave. The color of her legs also began to improve thereafter along with significantly reduced pain and discomfort. Ms. D.C. and her treatment providers remarked that the Venowave was the first treatment solution for her CVI that effectively reduced her signs and symptoms without interfering with her work or home activities.

To this day, Ms. D.C. continues to involve the Venowave as treatment protocol and maintains a significantly improved quality of life as a direct result of its unique design and features.