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CLINICAL CASES: MALE SUBJECT, 54 YEARS OLD, WITH SEVERE POSTURAL ISSUES, UNDERWENT SURGERY FOR AN OSTEOBLASTOMA WITH PARTIAL REMOVAL OF THE RIGHT FIBULA THIRTY YEARS AGO [15]

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Abstract: *The subject presents scoliosis, part of which is likely related to the surgical intervention for osteoblastoma in the right fibula. He had previously been treated with physiotherapy protocols, which brought him to his current condition. The subject was treated with the B.A.E. method (Biomechanical Anthropometric Ergonomic) for postural recovery. The results were evaluated after thirty days of treatment, then after four months, and finally after ten months. The results are very positive. Previously, the individual had only been treated with physiotherapy protocols, with insufficient outcomes over the years. Postural ergonomic treatment using the Biomechanical Anthropometric Ergonomic (B.A.E.) method already showed significant improvements in posture within the first thirty days, leading to very positive impacts in daily life and work. The subject was followed up approximately ten months after beginning treatment with the B.A.E. method.*

Keywords: *Posture, Biomechanical Anthropometric Ergonomic Method, Scoliosis, Back Pain*

INTRODUCTION

The subject of this study is a 54-year-old cook who underwent surgery thirty years ago involving partial removal of the right fibula due to an osteoblastoma. In all post-orthopaedic surgical cases, skeletal alterations occur, leading to postural changes, the extent of which depends on the severity of the surgical procedure.

Postural correction involves associative learning of many stimuli and responses. The goal is to acquire complex and integrated patterns within the "Human System" and all its consequences. Environmental stimuli generally trigger changes in gravitational management, leading to postural changes due to variations in muscle recruitment caused by the differing external inputs.

Post-surgery, structural alterations such as scarring and tissue changes permanently affect the physiology of the surgical site. This causes asymmetrical changes in the body's antigravity system. In our case, standing posture is persistently altered because the feet are asymmetrical, which leads to changes in occlusal alignment and, consequently, in neck positioning and head alignment.

In such cases, any form of exercise or rehabilitation can only yield short-term benefits and only while exercises are being performed, with gains often diminishing over time as the original antigravity posture reasserts itself. The key difference offered by the Biomechanical Anthropometric Ergonomic (B.A.E.) method is the ability to provide controlled external stimuli that induce stable postural changes throughout the body including cranial positioning and internal organ alignment.

Of particular interest is the hypothalamic-pituitary axis, which is crucial in endocrinological processes and neurotransmitter production. Altering its position could lead to stable, long-term changes in hormonal and neurochemical balances.

This new postural condition, induced and stabilized using the B.A.E. method in combination with customized physical activity and kinesitherapy, shows rapid and high-quality results.

ESPOSITION

Postural and ergonomic analysis using the B.A.E. method revealed antigravity posture outside normal

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protocol both while stationary and during gait.

Incorrect use of the knees, especially the right one, was noted during both walking and standing. There were discrepancies in load distribution between the two feet.

The pelvis shows excessive anterior tilt, especially on the right (the surgically treated side), resulting in lumbar hyperlordosis combined with rotation.

Figure 1

Figure 2

The head is misaligned with the torso, as seen in Fig. 1 (START), and the spine shows a lack of normal thoracic kyphosis. This condition causes cervical-thoracic tension with both vertebral and structural changes, confirmed by MRI (Fig. 2).

At this time, it is unclear whether these issues stem primarily from post-surgical spine posture or from occlusal (bite) issues. Nonetheless, the patient reported swallowing difficulties, which are consistent with these findings.

This posture increases energy expenditure in the locomotor system.

Figure 3

Figure 4

In Fig. 3, the rear view of the patient is shown, while Fig. 4 displays a lateral MRI of the thoracolumbar region.

Fig. 5 reveals that the central part of the right foot collapses downward, causing postural misalignment.

Fig. 6 shows an X-ray of the right leg with partial fibula removal.

Figure 5

Figure 6

\ COMPARATIVE BAROPODOMETRY

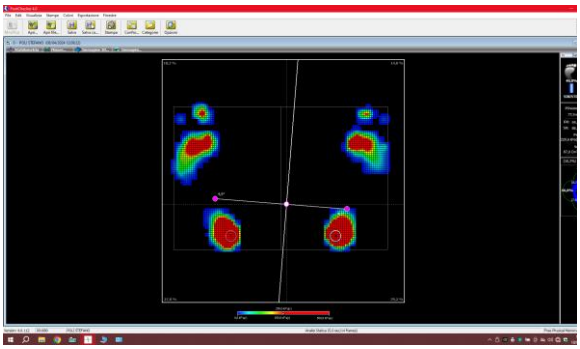

Figure 7

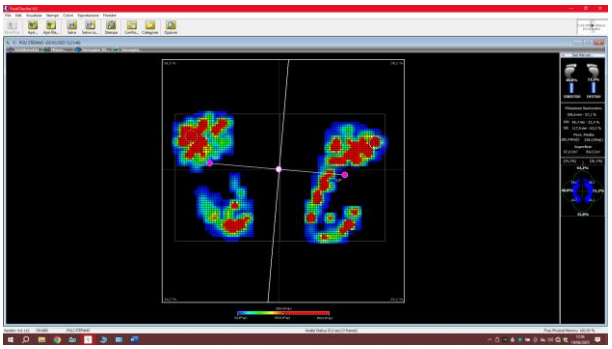

Figure 8

In Fig. 7, we see foot pressure images in standing position before treatment (START), while Fig. 8 shows the results from the follow-up on 03/03/2025, approximately ten months later. It can be observed that the body's center of gravity has shifted forward into a more physiological position, though a slight rotation remains, likely a post-surgical residual.

Fig. 9 illustrates the movement of the center of gravity during gait before treatment (START). It shows the left step was even worse than the right, with midfoot instability likely due to overuse of the healthy leg, while the right step veered inward due to poor anatomical support. In Fig. 10, after ten months, we observe improved right foot balance during gait, allowing the left foot to also step more correctly.

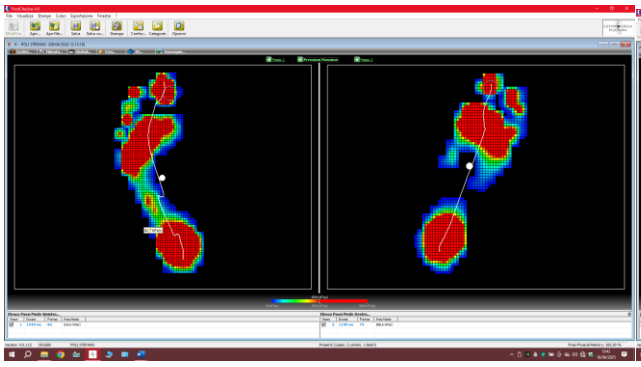

Figure 9

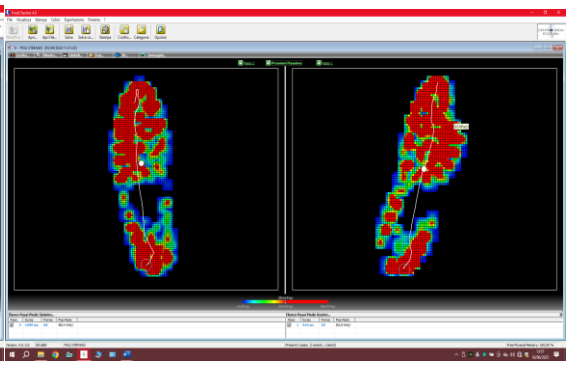

Figure 10

RESULTS

After approximately ten months of treatment using the B.A.E. method, photographic images show improved, more symmetrical, and upright posture indicating better locomotor system function and more harmonious body alignment. In particular, Fig.1 (right side) shows the head more centered and upright, along with an improvement in the patellar alignment. Fig.2 (right side) shows enhanced gluteal muscles and notably a more developed right triceps surae (calf), particularly the lateral head of the gastrocnemius, approaching the size of the left. The patient, a professional cook, reported discontinuing all pain medication after just thirty days of treatment.

CONCLUSIONS

Comparing the baropodometric images in orthostasis (standing), it is evident that load distribution is now more balanced, and the body shows greater extension indicating improved gravitational control. Gait dynamics have also improved, with the dynamic center of gravity now within B.A.E. protocol parameters. Photographic analysis shows the subject is more centered, with improved cervical muscle coordination and physiologically aligned kneecaps. The subject reports significant pain relief and an improved quality of life, allowing him to work longer hours without experiencing pain.

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