Mirror Mirror on the Wall
Phantom Limb Pain- A Case Study

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Introduction

Background
Phantom limb pain was first described by Ambroise Pare, a surgeon in the French miliary. He noted severe limb pain in the missing limb following amputation. Phantom limb pain (PLP) is a painful sensation that is perceived within a body part that is missing and a distressing symptom for individuals who experience it. It is estimated to occur in 60-80% of all amputations. It affects quality of life, decreases activity and reduces both social and professional integration.

Pathophysiology

1. Peripheral:
Amputation severs nerves and results in permanent nerve damage.
Remaining nerves in the amputated limb grow to form neuromas (growth of nerve tissue), which generate impulses. These impulses are perceived as pain in the limb which had been removed.

2. Neuroplasticity:
The region in the brain which is mapped to the amputated limb continues to receive signals, and over time, adjacent areas reorganize to invade this area in the cortex. Any sensations that occur in the adjacent regions is interpreted as pain in the amputated limb.

3. Pain Memory:
This occurs in chronic pain from the ischemic limb prior to amputation. This involves the brain holding onto the memory of pain and persists to fire pain signals even though the affected limb has been removed.

Management

Pharmacological:
1. Neuropathic agents: gabapentin, pregabalin, amitriptyline, ketamine
2. Nerve blockade

Non-Pharmacological:
1. Transcutaneous Electric Nerve Stimulation (TENS)
2. Cognitive Behavioural Therapy (CBT)
3. Mirror Therapy

Results

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<th>Pre VAS at Rest</th>
<th>Pre VAS on Movement</th>
<th>Post VAS D/C Home</th>
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Discussion

Systematic review carried out by Barbin et al in 2016 which deduced mirror therapy was widely used for PLP despite lack of robust evidence. Many studies had weak methodology with no comparison across protocols. There were only five randomized control trials on the use of mirror therapy in PLP.

Conclusion

In conclusion, evaluation of effect on pain is difficult as situation is often complex. Upon reflection, mirror therapy proved effective in this case. BK was recently reviewed in January 2018 where she reported complete resolution of pain. There was a vast improvement in quality of life as BK could maintain independence in activities of daily living and even enjoyed a holiday in Spain without difficulty.

Acknowledgements

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