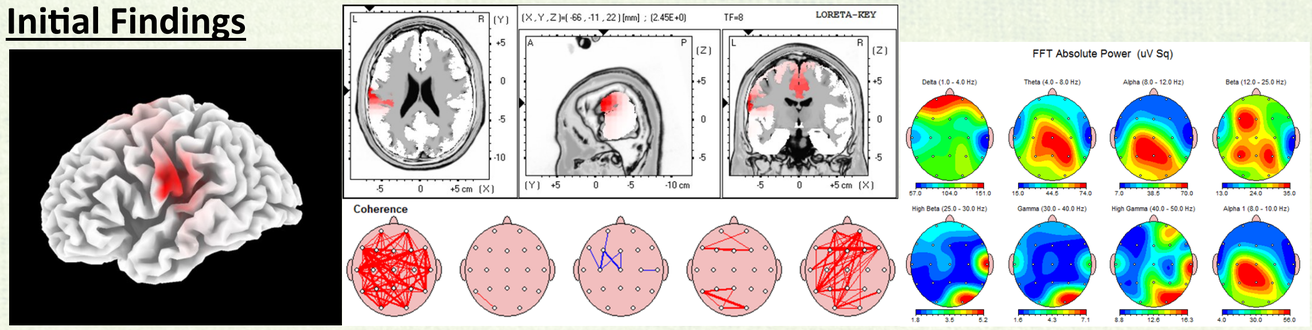
Complex Regional Pain Syndrome; A Case Study

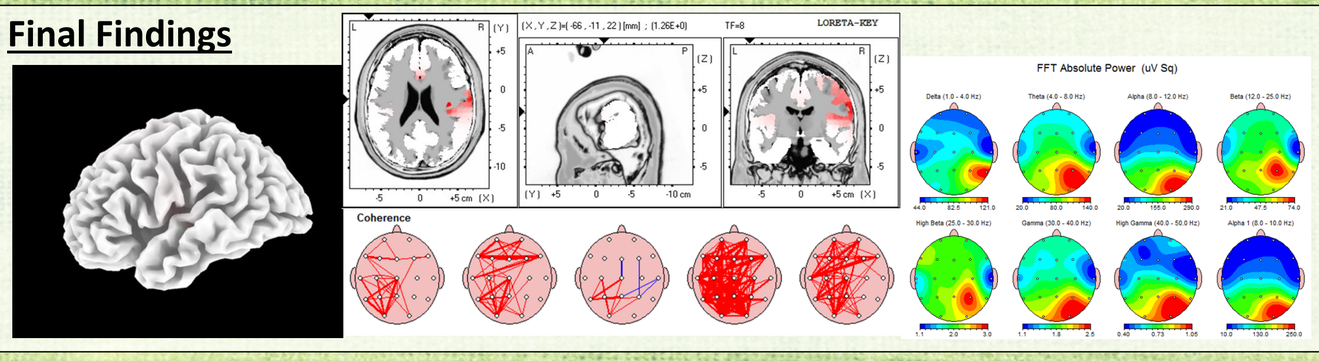
History.

A ten year old male presented following a right knee injury in August 2012 with a diagnosis for Complex Regional Pain Syndrome (CRPS) of 5 months duration. A previous medical history of concussion at 4 years old and 18 months of headaches following another head knock from a motor vehicle accident in September 2011 was noted. He has had pain management sessions at hospital, physiotherapy and psychology therapy including the strongest allowable dose of LYRICA, an anti-epileptic and nerve pain drug with no change in his symptoms.

Initial Findings

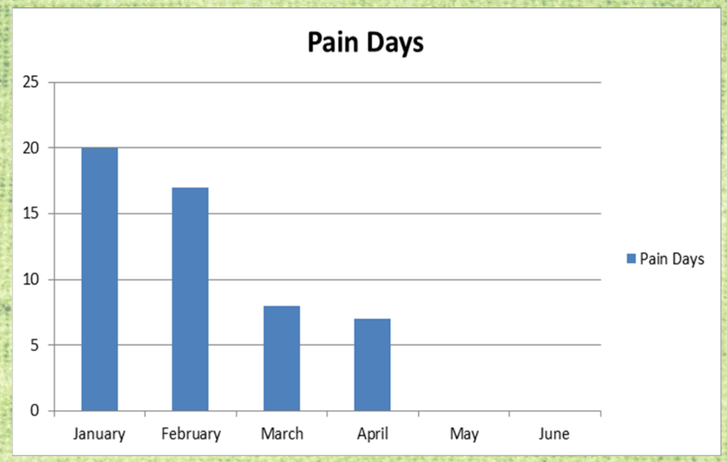


Final Findings



Physical Exam

He was unable to weight bear on presentation and had spasms of pain (7/10 Pain scale) every 3 seconds. He was unable to participate in most sporting activities including swimming especially with flippers, which aggravated the pain to a severe level. The pain improved in October but a fall made it severe again. MRI revealed no abnormalities. The patient was taking Lyrica, an anti-seizure anti-nerve pain medication, which produced associated mood swings, anxiety and poor balance. Physical examination revealed ataxic gait due to knee pain, an increased pupil size on the right and a decreased *"Time to fatigue"* on the right light pupillary reflex. Cranial, motor and sensory examination appeared normal. Due to the absence of other associated symptoms normally observed with CRPS an amended diagnosis of Central Pain Syndrome was made.



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Report Findings

Initial qEEG analysis demonstrated hyperactivity in the cingulate gyrus in the Alpha, Delta and Theta frequency and hypoactivity in the frontal and parietal regions across most frequency ranges. LORETA analysis demonstrated the most prominent Brodmann area of dysfunction was area 43 on the left, correlating to vibration and tactile digital stimulation. Initial treatment was aimed at increasing left frontal/parietal cortex and following 12 weeks of treatment a follow up qEEG analysis demonstrated significant improvement towards normative ranges in the Beta, High Beta and Theta frequency ranges. LORETA analysis showed a return to normal activity in previously hyperactive Brodmann area 43. The graph shows the change in pain days recorded during

Conclusion

This patient's symptoms had halved in frequency over 12 weeks of treatment and by 20 weeks he has experienced no return of his symptoms even with the occasional sporting injury. He no longer takes any medication and is back at school on a full time basis.

The original misdiagnosis and consequent failed treatment regimes led to many months of anxiety, pain and missed school days not to mention the significant disruption to his family's life trying to assist him with his condition.

We are happy to report that his family's life is at last beginning to return to normal .