

STAGED SURGERY FOR FUNCTIONAL SPASTIC HAND: A CASE REPORT

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Introduction: Post traumatic brain injury (TBI) with hand spasticity will cause severe disability. This may result in flexion contracture of wrist and finger, nerve compression, joint subluxation, and skin breakdown. We report a case of post TBI with severe spastic fixed flexion contracture of hand and wrist successfully treated with 2-stage-surgery which corrects the deformity and yields good hand functions.

Discussion: A 18-year-old gentleman with TBI, presented with spastic fixed flexion contracture of right hand and wrist resulting from a motor-vehicle-accident 2 years ago. He is fully conscious and ambulating independently. Prior to this, a trial of Botox-injection was done with minimal improvement. Clinically he has hand and wrist deformity with good strength of wrist and finger flexors but weak finger extensors. Due to functional spastic hand, a 2-stage-surgery was offered. 1st stage surgery consists of proximal row carpectomy and fractional lengthening of FCR, FDS and FDP to get wrist and finger extension. FCU was transferred to EDC to eliminate ulnar deviation of wrist and strengthened the finger extensor. PT was transferred to ECRB for wrist extension and EPL was rerouted to PL. PIP joint of little finger fusion was done with headless compression screw due to post-traumatic arthritis. Second stage surgery was done to correct the flexion contracture of MCP joint. Dorsal capsulotomy of 2nd, 3rd, 4th MCPJ with intrinsic tendon release was done. The principles for spastic hand contracture surgery include soft tissue releases, tendon transfers to augment antagonistic activity, and joint stabilization. The decision of surgery will be based on either functional or non-functional hand. A staged surgery is planned due to multiple pathoanatomy to be addressed and ensure a good outcome.

Conclusion: After extensive physiotherapy, patient able to achieve a functional hand. Severe spastic hand contracture can be treated by staged surgery to correct the deformity and achieve functional hand.