Treatment Refractory CIDP: What is the next best treatment?



Brian Flynn, D.O. and Justin Kwan, M.D.

Department of Neurology Temple University Hospital



CASE 1

History of Present Illness

- . 55-year-old man with a past medical history of HLD and cataracts who presents with progressive numbness and tingling for
- . He required a walker to ambulate and had impaired fine motor
- · He had increased sweating, constipation and a unintentional 20
- · He received influenza vaccine 2 months prior to the onset of his symptoms.

Presenting Neurologic Exam

Motor Exam: Mild distal more than proximal atrophy with normal

Sensory Exam: Decreased to pinprick and temperature to thighs and distal arms. Vibration decreased to the knee and elbow. Proprioception decreased up to the ankles.

Reflexes: Absent.

Gait: He is unable to stand or ambulate

	Before Ti	reatment	After Tr	eatment
	Right	Left	Right	Left
Deltoids	3	3	4+	4+
Biceps	3	3	5	5
Triceps	4	4	5	5
Wrist Extensors	3	3	4	3
Wrist Flexors	3	3	5	5
Finger Flexors	4-	4-	5	5
Iliopsoas	3	3	4+	4+
Knee Flexors	4+	5	5	5
Knee Extensors	3	4	5	5
Dorsiflexion	3	3	4	4+
Plantarflexion	4+	5	5	5

Laboratory and Diagnostic Studies

- · Lumbar puncture:
 - · 3 WBC, Protein 187, Glucose 66
- · ANA, ESR, CRP, SPEP, ANCA, and RF non-diagnostic.
- · Contactin-1 and neurofascin antibodies positive

Treatment Course and Results: Case 1

- 1. Intravenous immunoglobulin (IVIg) for 1 year.
- No clinical improvement, patient progressively worsened.
- 2. Methylprednisolone 1 gram IV daily followed by oral Prednisone taper.
- Minimal improvement, able to walk with walker and climb stairs again
- Still difficulty with ADLs.
- 3. Plasma exchange for 5 sessions.
- No improvement in motor or sensory symptoms.
- 4. Rituximab 375 mg/m2 weekly for 5 treatments.
- Minimal improvement of symptoms initially followed by regression in strength and worsened numbness and tingling.
- Remained wheelchair-bound.
- 5. Cyclophosphamide 1 gram/m2 (total 2.28 grams) plus 0.4g/kg IVIg every 3 weeks.
 - Improvement in both motor and sensory symptoms.
 - Ambulatory without assistive device, able to climb stairs.

CASE 2

History of Present Illness

- 72-vear-old man with a past medical history of HLD and diverticulitis who presents with a sudden onset of numbness ascending from his feet and hands that is associated weakness and instability
- · He was admitted to the hospital where he developed diplopia and significant alterations in blood pressure.
- · His gait and sensory loss continued to worsen despite treatment to the point that he needed an assistive device.

Presenting Neurologic Examination

Motor Exam: Mild proximal atrophy with normal tone. Neck extensor

Sensory Exam: Decreased to pinprick and temperature distally, mildly impaired proprioception.

Reflexes: Absent

Gait: Unsteady, requires assistive device.

	Before T	reatment	After Tr	eatment
	Right	Left	Right	Left
Deltoids	2	4	5	5
Biceps	4	4	5	5
Triceps	4+	4+	5	5
Wrist Extensors	4	4	5	4+
Wrist Flexors	4	4	5	5
Finger Flexors	4	4	5	5
Iliopsoas	3	3	5	5
Knee Flexors	4	4	5	5
Knee Extensors	4	4	5	5
Dorsiflexion	3	4	5	5
Plantarflexion	3	4	5	5

Laboratory and Diagnostic Studies

- · Lumbar puncture:
- 0 WBC, Protein 131, Glucose 59
- CPK 44 AST 59 ALT 80
- · Malignancy and autoimmune workup negative.
- · Contactin-1 and neurofascin antibodies negative.

Treatment Course and Results: Case 2

- 1. Intravenous Immunoglobulin (IVIg) for 10 days.
- Mild clinical improvement in weakness.
- Discharged to rehabilitation stable until symptoms acutely worsened
- 2. Additional 7 days of IVIg given plus 3 days of IV methylprednisolone upon acute worsening of symptoms.
- Minimal improvement, but still required assistive device.
- Persistent numbness, weakness, and gait instability.
- 3. Readmitted and given four sessions of plasmapheresis.
- Minimal improvement in symptoms.
- 4. Cyclophosphamide 1 gram/m2 monthly for 3 to 6 months with hydration and mesna plus IVIg plus prednisone taper.
- Improved balance, tingling resolved.
- Ambulating with minimal assistance.

Electrodiagnostic Studies Before and After Treatment: Case 1

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Electrodiagnostic Studies Before and After Treatment: Case 2

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RESULTS

- Two patients were clinically diagnosed with CIDP on the basis of CSF studies showing cytoalbuminogenic dissociation, electrophysiological testing consistent with a demyelinating sensorimotor polyneuropathy, and all CIDP mimics were
- · Both patients were treated with IVIg, methylprednisolone and plasma exchange.
- · Both patients had minimal response to worsening of their
- · Serology for contactin-1 and neurofascin antibodies was obtained
- · Antibodies present in one and absent in the other.
- · Both patients responded to cyclophosphamide with near complete resolution of symptoms.

CONCLUSIONS

- · Most cases of CIDP are responsive to conventional therapy with steroids, IVIg, or plasmapheresis.
- Treatment refractory CIDP is rare and only includes a small subset of patients with CIDP (approximately 20%).
- · Cyclophosphamide should be considered in patients refractory to conventional therapies.
- · Further studies are needed to determine superiority compared to Rituximab.

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ACKNOWLEDGEMENTS

A special thanks to Dr. Matthew Jaffa and the Temple University Department of Neurology.