

The Causality Spectrum of Dropped Head Syndrome is Broad and Includes Myopathy, Neurodegenerative Disorders, and Varia

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ABSTRACT

Dropped head syndrome is a common complication of various neurological disorders. Most commonly, dropped head syndrome is due to primary or secondary myopathy. However, neurodegenerative diseases and various other conditions can also be complicated by dropped head syndrome. Among the primary myopathies, dropped head occurs most commonly in association with mitochondrial disorders, congenital myasthenic syndrome, and axial myopathies. Among the secondary myopathies, dropped occurs most commonly in association with inflammatory myopathies. Myasthenia is the most common

transmission disorder associated with dropped head syndrome. The neurodegenerative disorder most commonly associated with dropped head syndrome is Parkinson syndrome. The diagnosis and treatment of dropped head syndrome from any cause requires a multidisciplinary approach. Outcome varies considerably but early diagnosis and early treatment are associated with a more favourable outcome.

Keywords: Amyotrophic lateral sclerosis, dropped head, electromyography, myopathy,

Cite this article as: Finsterer J, Mehri S. The Causality Spectrum of Dropped Head Syndrome is Broad and Includes Myopathy, Neurodegenerative Disorders, and Varia. Arch Neuropsychiatry 2024; 61:382–383.

We read with interest the article by Isik et al. (1) who reported on three patients with dropped head syndrome due to three different neuromuscular disorders (1). Patient-1, a 77-year-old male was diagnosed with amyotrophic lateral sclerosis (ALS), patient-2, a 78-year-old male was diagnosed with generalised myasthenia gravis, and patient-3, a 55-year-old female, was diagnosed with inflammatory myopathy (1). It was concluded that identifying the cause of dropped head syndrome requires comprehensive investigations and that the cause of dropped head syndrome should be identified early to allow for early treatment (1). The study is compelling but has limitations that should be discussed.

The main limitation of this study is that several differential causes of dropped head syndrome have not been adequately discussed. Differential causes of dropped head syndrome not considered in the discussion were several primary myopathies, such as axial myopathy due to mutations in *ANXA11* (2), acyl-CoA dehydrogenase deficiency (3), myopathy with rimmed vacuoles (4), and others (Table 1). In addition, some secondary myopathies, myasthenic syndrome, several neurodegenerative disorders, and a number of unclassified conditions have not been considered causes of dropped head syndrome (Table 1).

Another limitation of the study is that the results of muscle biopsy in patient-3 were not reported in detail (1). We should know whether the inflammatory myopathy in this patient was classified as polymyositis, dermatomyositis, inclusion body myositis, or necrotizing myositis. Knowing the specific type of inflammatory myopathy is crucial because treatment can vary significantly between the different subtypes.

Highlights

- The causality spectrum of dropped head syndrome includes myopathy and rare conditions.
- The underlying etiology of dropped head syndrome is critical for treatment and outcome.
- The outcome of dropped head syndrome depends on the underlying cause and may vary.
- Early diagnosis and early treatment are associated with a more favourable outcome.

Dropped had syndrome is commonly associated with bent spine syndrome. We should know whether or not any of the three index patients also developed bent spine during the disease course.

In summary, the interesting study has limitations that put the results and their interpretation into perspective. Addressing these issues would strengthen the conclusions and could improve the status of the study. Dropped head syndrome is multicausal, but most commonly occurs in primary myopathies, in particular mitochondrial disorders and congenital myasthenic syndromes. The diagnosis and treatment of

Table 1. Causes of dropped head

Disease category	Disorder	Reference
Primary myopathy	MP with rimmed vacuoles	(Allhammad 2020)
	Facioscapulohumeral muscular dystrophy	(Allhammad 2020)
	Axial myopathy due to ANXA11 variants	(Leoni 2021)
	Axial myopathy due to SEPN1 variants	(Ardisson 2016)
	Mitochondrial disorders	(Allhammad 2020)
	Acyl-CoA dehydrogenase deficiency	(Peng 2015)
	Nemaline myopathy	(Allhammad 2020)
	Myofibrillar myopathy	(Allhammad 2020)
	Laminopathy	(Karaoglu 2017)
	Congenital myasthenic syndrome	(Karakaya 2017)
	Scapulooperoneal muscular dystrophy	(Liewluck 2014)
	Congenital fiber type disproportion	(Moreno 2020)
	Congenital myopathy	(Martin 2011)
Congenital muscular dystrophy	(Karaoglu 2017)	
Myotonic dystrophy	(Isik 2023)	
Glycogenosies	(Isik 2023)	
Secondary myopathy	CLL-associated myopathy	(Allhammad 2020)
	Inflammatory myopathy	(Allhammad 2020)
	Scleroderma-associated myopathy	(Allhammad 2020)
	Drug-induced myopathy	(Allhammad 2020)
	Necrotizing autoimmune myopathy	(Allhammad 2020)
	Isolated neck extensor myopathy	(Martin 2011)
	Cushing syndrome	(Martin 2011)
	Carnitine deficiency	(Martin 2011)
	Botulinum toxin injection	(Martin 2011)
	Hypokaliemia	(Martin 2011)
	Muscle-restricted vasculitis	(Nielsen 2012)
Transmission disorders	Myasthenia	(Isik 2023)
	Myasthenic syndrome	(Martin 2011)
Neurodegenerative diseases	ALS	(Isik 2023)
	Parkinson's disease	(Gdynia 2009)
	Multisystem atrophy	(Martin 2011)
	Cervical dystonia	(Martin 2011)
	Tardive dyskinesia	(Martin 2011)
	Lewy body disease	(Aries 2008)
Varia	Radiation	(Allhammad 2020)
	Cervical myelopathy	(Martin 2011)
	Anterior scar contracture	(Martin 2011)
	Hypothyroidism	(Martin 2011)
	Hypoparathyroidism	(Martin 2011)
	Malignancy	(Martin 2011)
	Postsurgical	(Martin 2011)
Chorea acanthocytosis	(Schneider 2010)	

CLL: chronic lymphatic leukemia

dropped head syndrome requires a multidisciplinary approach. Outcome varies significantly, but early diagnosis and early treatment are associated with a more favourable outcome.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept- JF, SM; Design- JF, SM; Materials- JF, SM; Analysis and/ or Interpretation- JF, SM; Literature Search- JF, SM; Writing- JF, SM; Critical Reviews- JF, SM.

Conflict of Interest: The authors declared that there is no conflict of interest.

Financial Disclosure: none

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