

Neuropathy and cough may not be a fortuitous association

Neuropatia e tosse pode não ser uma associação fortuita

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Conflict of interest:

There is no conflict of interest to declare.

Received 14 March 2014
Accepted 21 March 2014

Coexistence of neuropathy and chronic cough seems to be rare, but a series of recent reports have shown that it certainly occurs more frequently than we would expect by a chance association. As is the rule in neurogenetics, this coexistence seems to be associated to phenotypic and genotypic heterogeneity.

At least 2 reports described the existence of cough and a sensory and motor neuropathy, either related to a specific mutation in MPZ gene¹ or to an unknown locus².

More frequently, however, cough is a manifestation of an autosomal dominant hereditary sensory and autonomic neuropathy type 1 (HSAN1), also known as hereditary sensory neuropathy type 1 (HSN1). This is also a very heterogeneous condition and at least 5 genes have been recognized. HSN1B is the subtype associated to cough and gastroesophageal reflux (GOR).

HSN1B has been reported a few times in the literature and some families have been mapped to 3p22-p24 region³. Nine new families were recently presented at the 5th CMT Consortium Meeting in Belgium (2013) by Beaudonnet et al. (personal communication) but no molecular data has been presented.

Clinically, it seems to exist considerable variability. Tendon jerks may be normal, brisk or absent; not always cough is associated to GOR; some may have impotence and/or urinary urgency or even urinary incontinency; sensorineural hearing loss may be a manifestation; sensory involvement may reflect a small fiber neuropathy and/or a large fiber neuropathy with sensory ataxia.

In this number of *Arquivos de Neuropsiquiatria*, Barros et al.⁴ described a Portuguese family with HSN1 and cough/GOR, clearly contributing to the clinical definition of this condition. Their patients had a severe sensory ataxia and a sensorineural loss was present on audiometry. Unfortunately no linkage data was presented.

A major contribution of gene identification of the hereditary neuropathies was a better understanding of the biology of the peripheral nervous system. Identification of the gene/genes responsible for these neuropathies certainly will contribute to build the biology of the sensory and autonomic neurons, to identify its similarities and to identify their similarities and differences with the motor neurons. Interestingly, some motor neuropathies may present autonomic dysfunction⁵. As a second contribution, gene identification will show if the clinical variability is due to genetic heterogeneity or if mutations in only one gene are associated to this large spectrum of clinical manifestations.

Finally, to those old neurologists that still see neurological examination as a fundamental step of a proper patient evaluation, or to those new neurologists that want to properly evaluate their patients, the Arnold's sign will certainly add a beautiful refinement.

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