

# Evidence of nemaline bodies in a patient affected with carcinoma of the tongue

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## Introduction

Dysphagia, dysarthria and tongue weakness are disabling and sometimes life-threatening symptoms that may be caused by a plethora of pathological mechanisms. Here we describe a case in which these symptoms were the initial manifestation of a salivary gland carcinoma of the tongue associated with diffuse muscle pathology.

## Presentation and history

A 58-year-old woman came to our observation for a history of difficulty swallowing and speaking that had had a subtle onset four years earlier. Her family history was negative. Her medical history showed only arterial hypertension. Shortly after the onset of these symptoms, she had been diagnosed with bulbar-onset motor neuron disease; the rapidly progressive course of the disease, however, had compelled her to look for a second opinion.

## General and Neurological Examination

- Severe **macroglossia** and tongue paresis (2/5 on the Medical Research Council scale);
- Mixed dysphagia;
- **Dysarthria** and hypophonia;
- Masseter muscle hypotrophy;
- **Diffuse myalgias** and a moderate, generalized weakness (4/5 on the MRC scale).



Fig. 1

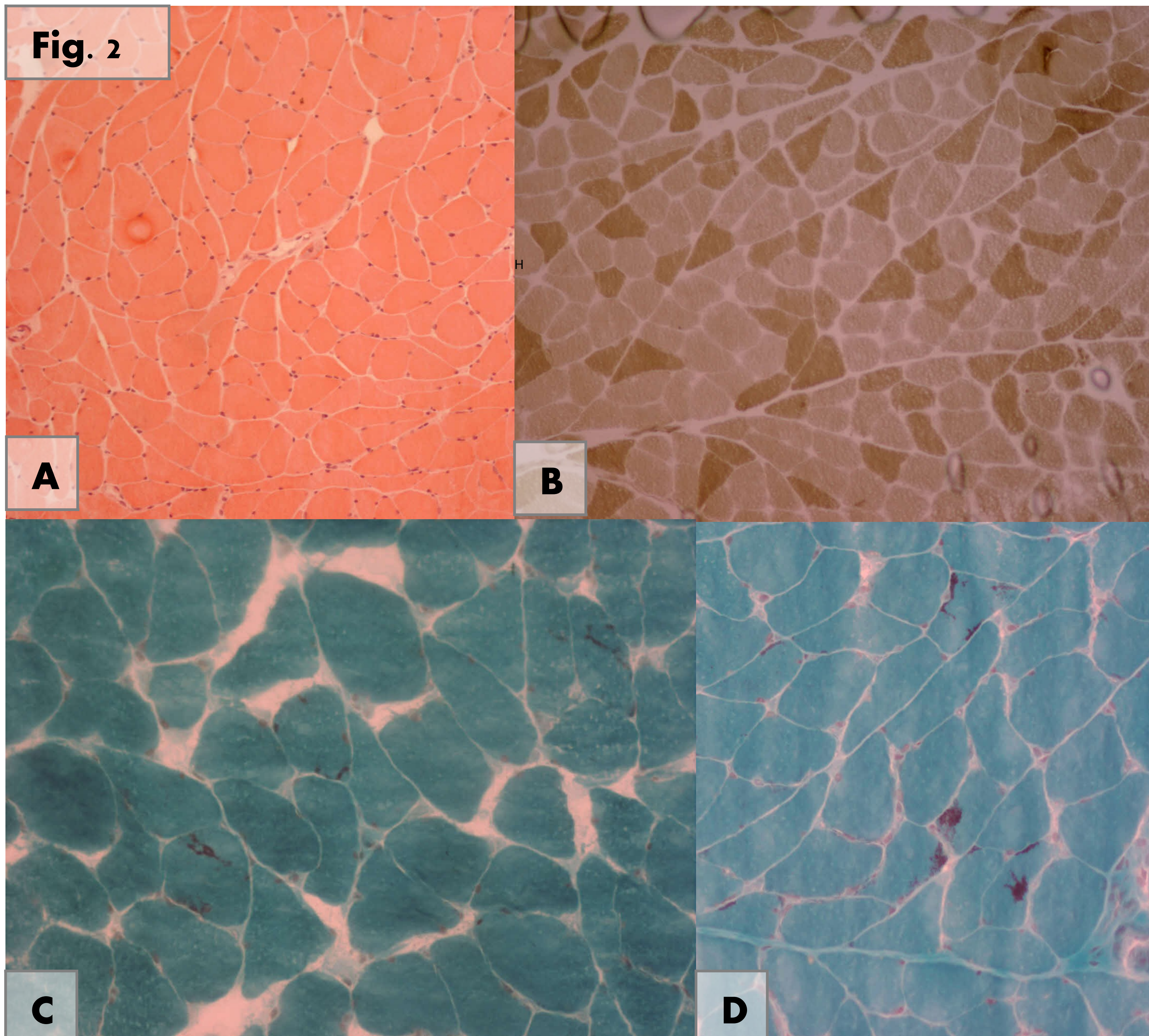
## Other Exams and Tests

A contrast-enhanced CT scan of the head and face revealed a **deep, localized hypodensity at the base of the tongue**, with dishomogeneous contrast enhancement, as seen in *Figure 1*.

Routine blood test results were unremarkable, with the exception of an increased creatine kinase (>**350 U/L**).

Electroneuromyographic testing showed **signs of chronic denervation in the tongue**; other districts were unaffected.

Fig. 2



## Muscle Biopsy

A biopsy performed on the **right deltoid muscle** [*Figure 2*] showed:

- Predominance of type I fibers, some of which hypertrophic, and atrophy of both fiber types [*A, B*]
- Inside many type I fibers, **sarsarcolemmal rods, which stained red in Gomori trichrome**, were found. These findings could be suggestive of nemaline bodies [*C, D*].
- Electron microscopy and immunofluorescence study are in progress to confirm this hypothesis.

## Lingual Biopsy

A lingual biopsy performed at the base of the tongue tested positive for a **cT4N2bM+ salivary gland tumor**.

## Conclusions

This case is of interest because it shows a previously undescribed association of oral cancer and diffuse myopathy.