Treatment of Cervical Ligamentum Flavum Calcification with Single-Level Double-Door Laminoplasty

Ya-Jun Liu*, Xiao-Feng LE, Lin HU, Da HE, Sai MA and Wei Tian

Department of Spine Surgery, China

*Corresponding author: Ya-jun Liu, Department of Spine Surgery, China

Submission: October 19, 2017; Published: November 13, 2017

Abstract

Calcification of Ligamentum Flavum (CLF) is an uncommon disorder. We present a 72-year-old patient with cold right extremities and headache. The imaging investigations conclude for the diagnosis of calcification of the ligamentum flavum. Our observation illustrates the difficulties to distinguish the ossification or calcification of the ligament before the operation. Finally, we draw attention to the efficacy of medical treatment in our case and we discuss the different therapies proposed in the literature.

Keywords: Ligamentum flavum; Calcification; Laminoplasty

Abbreviations: CLF: Calcification of Ligamentum Flavum

Introduction

CLF is an uncommon disorder. This condition is probably underestimated and most reported cases were Japanese patients. A PubMed search found no Chinese case report. The most common presentation of CLF is sub acute myelopathy due to spinal cord compression by the calcifications in the absence of precipitating factors. CLF in this case occurred in a Chinese patient who presented misleading clinical symptoms.

Case Report

Figure 1: Plain Radiographs of the cervical spine showed no obvious abnormalities.

A 72-year-old Chinese woman was admitted with a history of 1 year cold right extremities and headache. 6 months ago, she complained of walking instability 4 months ago, she suffered from severe pain in the left upper limb, with slight numbness at the fingertips of both hands when coughing. No history of any cardiovascular system diseases was present (Figure 1). At physical
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with colchicines [1], so it is necessary to distinguish the ossification of the ligament before the operation. Miyasaka et al. [2] have shown that the ligamentum flavum ossification of the following morphological features: usually involved two or more spinal levels; often associated with ossification of the posterior longitudinal ligament and thickening of the laminae; usually extends along the joint and pedicle laterally [3,4]; appeared as a beaklike or mound like bony exocrescence arising from the laminae. The calcification: more involved in a single level; lesions mostly spherical nodules; usually both sides appear simultaneously; and lamina adhesion light. Combined with this case, the possibility of CLF was considered preoperatively, and the pathological results confirmed our guess.

Because the patient’s pain is unbearable, she strongly required for surgical treatment. There are no reports of single-level double-door laminoplasty in the treatment of patients with cervical CLF. Generally, the conclusion that laminoplasty is biologically superior to laminectomy is now recognized by academics, because laminoplasty reduce the possibility of postoperative cervical kyphosis and have lower risk of injury of blood vessels and nerves during the operation [5]. In the past, it was considered that the cervical lesions under 3 segments were suitable for open-door, and over 3 segments were suitable for double-door, but there was controversy. Recently, Hirabayashi et al. [6] have compared the results of cervical open-door and double-door laminoplasty, and summed up the indications. They thought “cervical spondylotic myelopathy combined with bilateral radiculopathy” were more suitable for double-door. The CLF is mostly bilateral compression, so we believe that the CLF is more suitable for double door laminoplasty. We firstly attempted to treat the disease with single-level double open-door laminoplasty. The curative effect is good and the patient is satisfied. Maybe this can provide reference for colleagues.

**References**