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Letter to the editor

Comments on: "Cervical myelopathy due to ossification of the transverse atlantal ligament: A Caucasian case report operated on and literature analysis" of L. Proietti *, L. Scaramuzzo, S. Sessa, G.R. Schirò, C.A. Logroscino published in Orthop Traumatol Surg Res. 2012, 98(4):470-474

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Because of the large space of the spinal canal at the atlas, the ossification of transverse atlantal ligament (OTAL) generally does not form a very severe compression on the cervical spinal cord [1]. OTAL is an extremely rare occurrence and more rarely combining with C1 hypoplasia resulting cervical myelopathy. In this case, the spinal cord is simultaneously subjected to compression from the front and the back. The association between OTAL and C1 hypoplasia is not yet known.

It is suggested in the literature that such rare diseases can be treated by C1 posterior laminectomy to achieve adequate decompression and neurological recovery [2–5]. L. Proietti et al. performed C1–C2 screw fixation with C1 poliaxial screws in the lateral masses and two bilateral crossing C2 laminar screws for a 53-year-old Italian female who was diagnosed as OTAL and C1 hypoplasia [6]. We think that the decompression and stabilization of this type of surgery are very worthy of recognition, and the patient achieved neurological improvement after the surgery. However, intraoperative injury to the vertebral artery is one of the major complications of placement of the screw. Although this risk can be reduced by preoperative angiographic computed tomography (Angio CT), it cannot be completely avoided [7].

We are interested in this article because we recently treated a very similar patient, a 72-year-old Chinese male with progressive paresthesia and numbness in the extremities of three months. CT scan and reconstruction showed OTAL and C1 hypoplasia (Fig. 1). Our patient underwent C1 posterior expansive open-door laminoplasty and his neurological symptoms improved significantly after surgery (Fig. 2). As far as we know, C1 posterior expansive

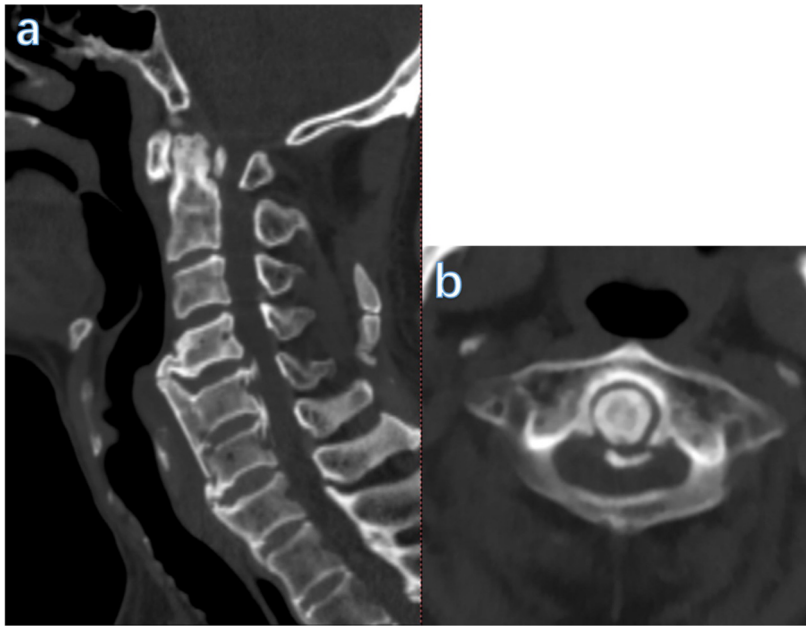

Fig. 1. a, b. Preoperative sagittal and axial CT scan showing the ossification of the transverse atlantal ligament and C1 posterior arch hypoplasia.

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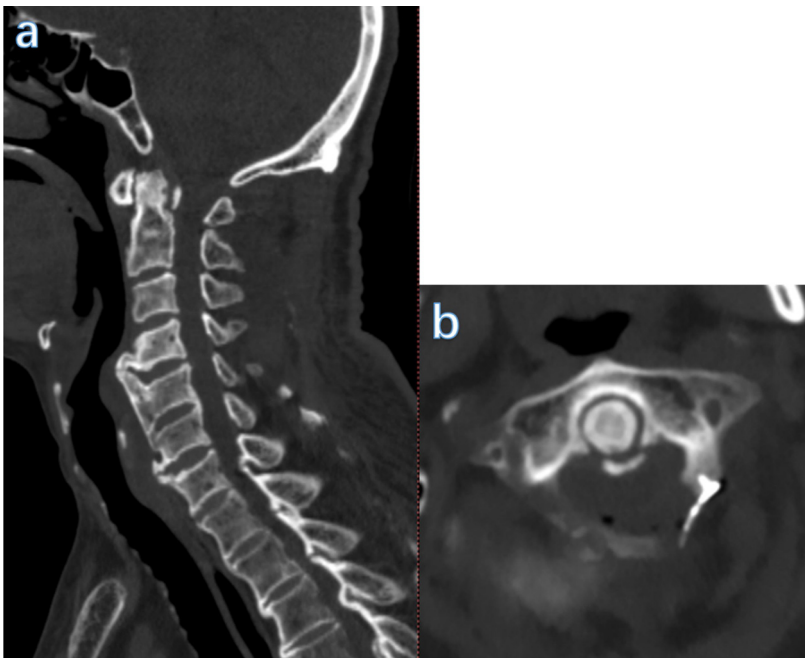

Fig. 2. a, b. Postoperative sagittal and axial CT scan showing the diameter of the spinal canal is significantly increased compared with preoperative.

open-door laminoplasty has not been reported to treat OTAL nor C1 hypoplasia in the literature. The internal fixation's position was satisfactory at one-year follow-up and the diameter of the spinal canal was not reduced again after the surgery. C1 posterior expansive open-door laminoplasty may achieve the same decompression effect and better stability than simple C1 posterior laminectomy. Whether different surgical methods have differences in operative time and intraoperative blood loss requires more data support. At the same time, we also believe that C1 posterior expansive open-door laminoplasty also has the following limitations: it is not applicable when the posterior arch of the atlas is incomplete or the poor stability of the atlantoaxial joint.

The present Letter to the Editor is therefore to propose different Operative techniques for the management of OTAL and C1 hypoplasia. The choice of surgical approach should be individualized and determined according to imaging examination [8]. When faced with complex or rare upper cervical deformities, spine surgeons should strive for satisfactory results at the minimum cost.

Disclosure of interest

The authors declare that they have no competing interest.

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Contribution

Sen Yang and Weimin Jiang performed the surgery; Sen Yang collected the information of the patient and wrote the letter; Weimin Jiang revised the letter.

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