

Cage Extrusion after Cervical Discectomy and Fusion: Case Report**Salami Mohcine¹, Inas El Kacemi², Yao Christian Hugues Dokponou^{1*}, Fresnel Ontsi Obame¹, Abad Cherif El Asri¹ and Miloud Gazzaz¹**

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Abstract

Anterior cervical discectomy and fusion (ACDF) with cages has become the standard treatment for cervical disc herniation. Several surgical techniques have been developed that have proven effective, but the results are not without serious and sometimes fatal complications. Symptoms can vary in severity, from mild to severe, and even life-threatening. We report a rare case of delayed cervical cage migration in a 54-year-old patient admitted for cervical pain associated with dysphagia. A cervical x-ray showed implant ejection at the C6-C7 level. In this case report, we discuss the clinical and radiological features of this unusual complication and attempt to identify technical reasons and ultimately raise awareness of this complication.

Keywords: Anterior Cervical Discectomy and Fusion, ACDF, Dysphagia, Implant Migration, Cage Extrusion

1. Introduction

A herniated disc is a common cause of neck pain in adults. The severity of the disease can range from mild to severe and even life-threatening. Medical treatment is generally limited to mild cases. However, more severe or progressive symptoms require surgical treatment [1,4]. Several technical modifications have been developed. Anterior cervical discectomy and fusion (ACDF), introduced in 1955, offered promising results for the treatment of this pathology [2,3]. The procedure aims to decompress the nervous components, restore lordosis, and achieve bone fusion. Over the years, this procedure has been continuously improved and is now a highly reliable treatment modality that provides pain relief, improvement in neurological symptoms, and high patient satisfaction in both short- and long-term follow-up [5-7]. Complications after anterior cervical spine surgery are rare, particularly cage migration. In this interesting report, we present a 54-year-old man who presented with delayed dysphagia 9 months after an anterior cervical discectomy and fusion. To our knowledge, this case report of delayed migration has not been reported.

2. Case Presentation

The patient is a 54-year-old man with no significant medical

history who presented with progressive neck pain and worsening symptoms of myeloradiculopathy for several years. On examination, he demonstrated full motor strength and objective sensation in both the upper and lower extremities. Hyperreflexia was observed diffusely in the bilateral upper extremities. No other upper or lower motor neuron signs were noted.

Magnetic resonance imaging (MRI) suggested a herniated disc with bilateral foraminal stenosis at the C6–C7 level. Surgical intervention was chosen and the patient underwent anterior cervical discectomy and cage fusion. His postoperative period was uneventful. Nine months later, he was admitted with delayed dysphagia and intermittent breathing difficulties without neurological deficits.

ENT examination with laryngoscopy revealed no lesions or swelling in the nasopharynx, hypopharynx, or larynx. Cervical radiographs showed migration of the cervical cage at the C6-C7 level (Figure 1). The patient had a surgical removal of the migration cage, which was then replaced with a new one (Figure 2). The patient did well postoperatively, remained in the hospital for a few days for immediate postoperative follow-up, and was discharged home asymptomatic a week later.

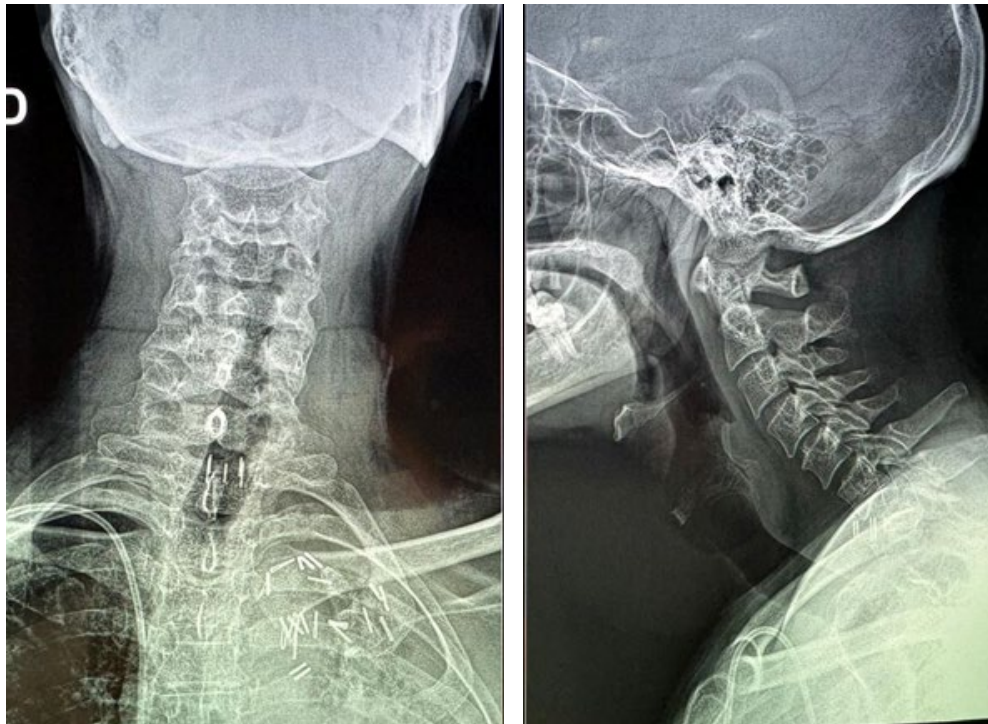


Figure 1: Cervical Spine X-ray showing Migration of C6C7 Arthrodesis Material



Figure 2: Cervical Spine X-ray showing Replacement of C6C7 Arthrodesis Material

3. Discussion

Anterior interbody fusion of the cervical spine (ACDF) with cages has become the gold standard for the treatment of intervertebral disc disease. ACDF cage extrusion is a rare complication, and the incidence of which is estimated to be less than 1% [8]. The consensus is that implant migration is due to implant malpositioning and/or poor fixation. Smith et al. identified 11 cases of implant extrusion out of 8,887 cases studied and attributed them to long complex constructs spanning three or more levels and located at the cervicothoracic junction, placing high stress on the implants and resulting in displacement [9]. In our case, we believe that both the cage height and its proximity to the cervicothoracic junction contributed to cage migration despite immobilization with a cervical collar.

Anterior displacement of the implant can cause dysphagia and difficulty breathing due to the mass effect. In addition, the chronic pressure of the implants can lead to pressure necrosis and erosion of the implants into the pharynx, as other authors reported [10]. This may be considered to place this patient at risk of catastrophic respiratory compromise or the development of a severe infection with acute decompensation. Fountas et al. reported a patient who underwent C5–C6 ACDF and presented with severe dysphagia 16 months postoperatively [11]. Imaging showed implant pullout. The patient then had the hardware removed; However, the fourth locking expansion screw was not found during surgery but was located later on abdominal imaging. Another case described a patient who presented with acute-onset odynophagia three years after C5–C6 ACDF and was found to have extruded a lower locking screw into the hypopharynx, which was removed with forceps under anesthesia. Oral expectoration by anterior cervical discectomy and fusion cage or screws was also reported [1]. Nevertheless, there were more serious and life-threatening complications in some cases: Fujibayashi et al. reported a suspected migration of the cervical plate and its screws through the gastrointestinal tract, which occurred unknowingly after extrusion, as there was no imaging evidence of the inserted implants and the patient never underwent surgical removal [12].

However, Riew et al. report a patient who suffocated due to respiratory impairment after coughing up the anterior cervical plate and died three days after the operation [13]. Therefore, radiological intraoperative and postoperative follow-up is of undeniable importance. It is not clear how many months patients must wear the cervical collar to avoid postoperative material extrusion.

4. Conclusion

Implant ejection is a rare and uncommon but serious complication that may involve pain, swelling, and difficulty swallowing. Obtaining orthogonal radiographs is crucial for the routine follow-up of postoperative ACDF patients, especially if dysphagia persists or suddenly worsens. Significant morbidity can be prevented through early detection of implant displacement.

Disclosures

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Conflict(s) of Interest

The authors report no conflicts of interest.

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Authors' Contributions

Yao Christian Hugues Dokponou: Conceptualization, writing draft, reviewing and editing, visualization, supervision, validation, methodology.

Salami Mohcine: Writing, review & editing.

Fresnel Ontsi Obame: Writing, review & editing.

Inas El Kacemi: Writing & editing.

Abad Cherif El Asri: Writing & editing.

Miloud Gazzaz: Supervision, Validation, & review.

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