

CASE REPORT

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Expectoration of anterior cervical implant after 15 years: A rare case report

Ayusman Satapathy, Tanvi Choubey

ABSTRACT

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Introduction: Anterior cervical discectomy and fusion (ACDF) is a widely practiced procedure. Various complications of ACDF are described but extrusion implant construct from mouth is extremely rare.

Case Report: A 37-year-old young gentleman with history of ACDF surgery 15 years back reported to our outpatient department (OPD) with complain of coughing out one anterior cervical plate and two screws. On follow-up the patient was asymptomatic and absolutely fine.

Conclusion: Though rare the above-mentioned complication is not inevitable after so many years of surgery. Proper position of implant with good purchase of screws are the most important parameter to avoid such complication in future.

Keywords: Anterior cervical discectomy and fusion (ACDF), Cough out implant, Implant expectoration

INTRODUCTION

Anterior cervical discectomy and fusion (ACDF) is one of the most commonly performed spinal procedures in neurosurgery. Though rare, complications related to ACDF are not uncommon. Hematoma, dural injury, postoperative dysphagia, esophageal, pharyngeal injury, and Horner's syndrome are few of the complications described in the literature [1–4]. One of the grave complications associated with ACDF surgery is the extrusion of the implant through the operative site or through mouth. To the best of our knowledge, only one case of expectoration of implant construct through mouth after a bout of cough has been reported till date.

CASE REPORT

A 37-year-old young man presented to our OPD with complaint of expectoration of an anterior cervical plating and two screws (Figure 1A and B) 7 days back. The patient had history of operated for C3-4 and C4-5 ACDF approximately 15 years back at some other hospital for cervical spine trauma. At presentation he was completely normal without any history of dysphagia, choking, aspiration pneumonitis, or fever. We advised an esophagus copy and bronchoscopy to look for the site of perforation but the patient denied as he was absolutely fine; however, we ask the patient to remain in follow-up regularly. A cervical spine X-ray done two years back (Figure 1C and D) suggestive of upward migration of implant with two missing screws. We advised an X-ray cervical spine which suggestive of good fusion from C3 to C5 without any implant in situ (Figure 1E and F).

DISCUSSION

Anterior cervical discectomy and fusion is one of the most frequently performed spinal procedures. Although rare, postoperative complications after ACDF

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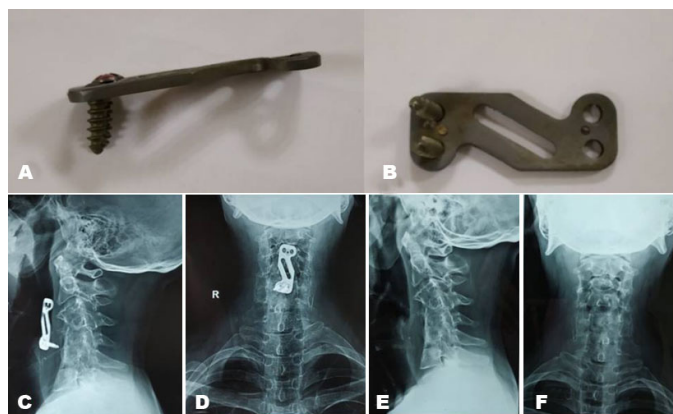


Figure 1: (A) and (B) are the expectorated implant construct from mouth. (C) and (D) X-ray cervical spine lateral and anteroposterior view showing implant in situ with two missing screws. (E) and (F) are the post-expectoration X-rays without the implants and there is good fusion.

are not inevitable. Esophageal tear can occur after ACDF surgery and migration of implant construct through this tear into the gastrointestinal tract have been reported previously by various authors [2, 5–7]. Pharyngeal perforation after ACDF is an extremely rare condition and only few cases have been reported in the literature till date [8]. It can happen either due to direct injury during surgery or many days after surgery with a very low reported incidence rate of 0.25–1.49% [9, 10]. They may have a benign course or may land up in fatal outcome, so early diagnosis of such cases and prompt management may save lives. Various factors may be responsible for those cases of implant extrusions but one of the most common predisposing factor for this complication is (after a close study of all the reported cases in literature) malpositioned implant during surgery [2, 5–7]. This is a rare and one of its kind of case report where the implant construct with two previously missing screws coughed out after 15 years of surgery and on follow-up patient was absolutely fine. According to the existing literatures each and every case is separate and is treated accordingly but the most important thing to keep in mind for avoiding such complications in future is the proper position of implant with good purchase of screws during the surgery.

CONCLUSION

Cough out implant after many years of surgery is a rare, but possible complication. Proper positioning of the implant construct with good purchasing of screws into the bone is the most important step to be kept in mind during surgery.

REFERENCES

1. Cloward RB. Complications of anterior cervical disc operation and their treatment. *Surgery* 1971;69(2):175–82.
2. Fountas KN, Kapsalaki EZ, Machinis T, Robinson JS. Extrusion of a screw into the gastrointestinal tract after anterior cervical spine plating. *J Spinal Disord Tech* 2006;19(3):199–203.
3. Fountas KN, Kapsalaki EZ, Nikolakakos LG, et al. Anterior cervical discectomy and fusion associated complications. *Spine (Phila Pa 1976)* 2007;32(21):2310–7.
4. Lu DC, Theodore P, Korn WM, Chou D. Esophageal erosion 9 years after anterior cervical plate implantation. *Surg Neurol* 2008;69(3):310–2.
5. Fujibayashi S, Shikata J, Kamiya N, Tanaka C. Missing anterior cervical plate and screws: A case report. *Spine (Phila Pa 1976)* 2000;25(17):2258–61.
6. Geyer TE, Foy MA. Oral extrusion of a screw after anterior cervical spine plating. *Spine (Phila Pa 1976)* 2001;26(16):1814–6.
7. Yee GK, Terry AF. Esophageal penetration by an anterior cervical fixation device. A case report. *Spine (Phila Pa 1976)* 1993;18(4):522–7.
8. Sharma RR, Sethu AU, Lad SD, Turel KE, Pawar SJ. Pharyngeal perforation and spontaneous extrusion of the cervical graft with its fixation device: A late complication of C2-C3 fusion via anterior approach. *J Clin Neurosci* 2001;8(5):464–8.
9. Jamjoom ZA. Pharyngo-cutaneous fistula following anterior cervical fusion. *Br J Neurosurg* 1997;11(1):69–74.
10. Newhouse KE, Lindsey RW, Clark CR, Lieponis J, Murphy MJ. Esophageal perforation following anterior cervical spine surgery. *Spine (Phila Pa 1976)* 1989;14(10):1051–3.

Author Contributions

Ayusman Satapathy – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Tanvi Choubey – Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Authors declare no conflict of interest.

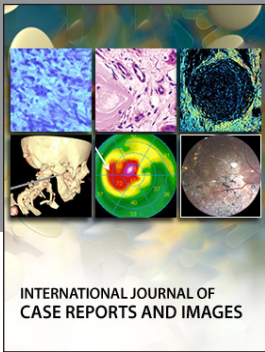
Data Availability

All relevant data are within the paper and its Supporting Information files.

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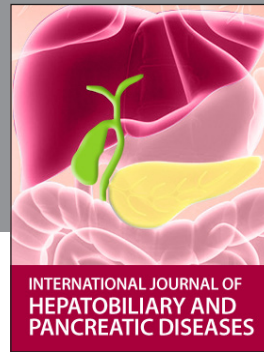
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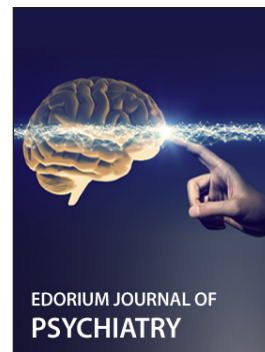
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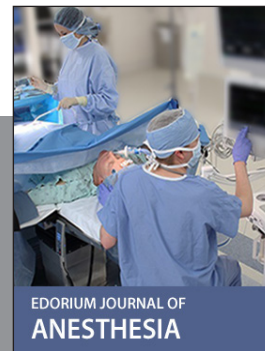
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