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## WEDGE COMPRESSION OF LUMBAR SPINE ASSOCIATED WITH INGESTION OF ARTIFICIAL DENTURE. A VERY RARE ASSOCIATION

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#### Abstract

**Introduction:** Spinal fractures are often seen in the accident and emergency department. These usually result from the Road traffic accidents in young or due to fall from height in elderly. These fractures are sometimes associated with other injuries as well. Artificial denture ingestion as associated with spine fracture is not been reported in literature. We present a case of elderly male patient who had such association and was picked up early and managed uneventfully.

**Case presentation:** Following fall from height, Patient was brought to us with pain back with difficulty to stand. Patient was initially stabilised and on examination he had tender neck and lumber spine. Foreign body was suspected on x rays besides a wedge compression fracture at L1. Patient was subjected to hypo laryngoscopy and artificial dentures were removed.

**Conclusion:** This case highlights the need for looking artificial dentures by the emergency care physicians while dealing with the trauma patients. The history should be asked in elderly patients who turn up with fractures following fall to rule out any artificial teeth ingestion. Early diagnosis can prevent morbid complications.

**Key Words:** spine fractures, artificial dentures, Removal of foreign body.

#### Introduction

Spine fractures are often encountered in the emergency departments. Most of them are as a result of fall from height. These fractures are often as a result of axial loading and are associated with other fractures like calcaneum or hip fractures. An emergency care physician should be vigilant enough to look into these injuries as these are often missed during the first survey. A second survey is therefore important to rule out any other injury. We present a case of 57 year old male patient who presented to us with history of fall from height and pain in back. Besides having a compression fracture at L1 vertebra, artificial dentures were found on X ray examinations which were removed uneventfully. This is the first case

reported by orthopaedic emergency department to the best of our knowledge.

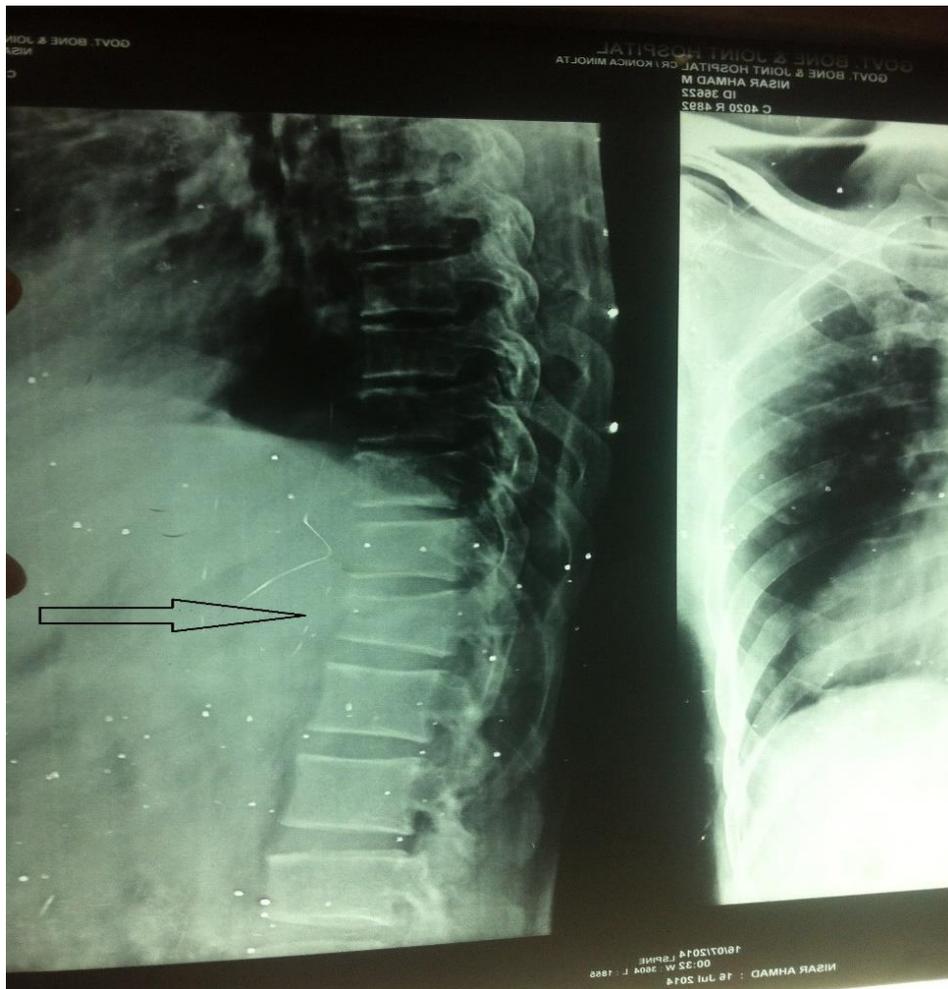
#### Case presentation

Fifty seven year old male patient presented to the emergency room of Bone and Joint hospital with the history of fall from height during his routines. He had no history of loss of consciousness, vomiting, seizure or bleeding. He complained of pain in back region with difficulty to stand from the lying down position. He had low volume voice and was complaining of pain during deglutination. Patient was a smoker, normotensive and non-diabetic. No history of any medications

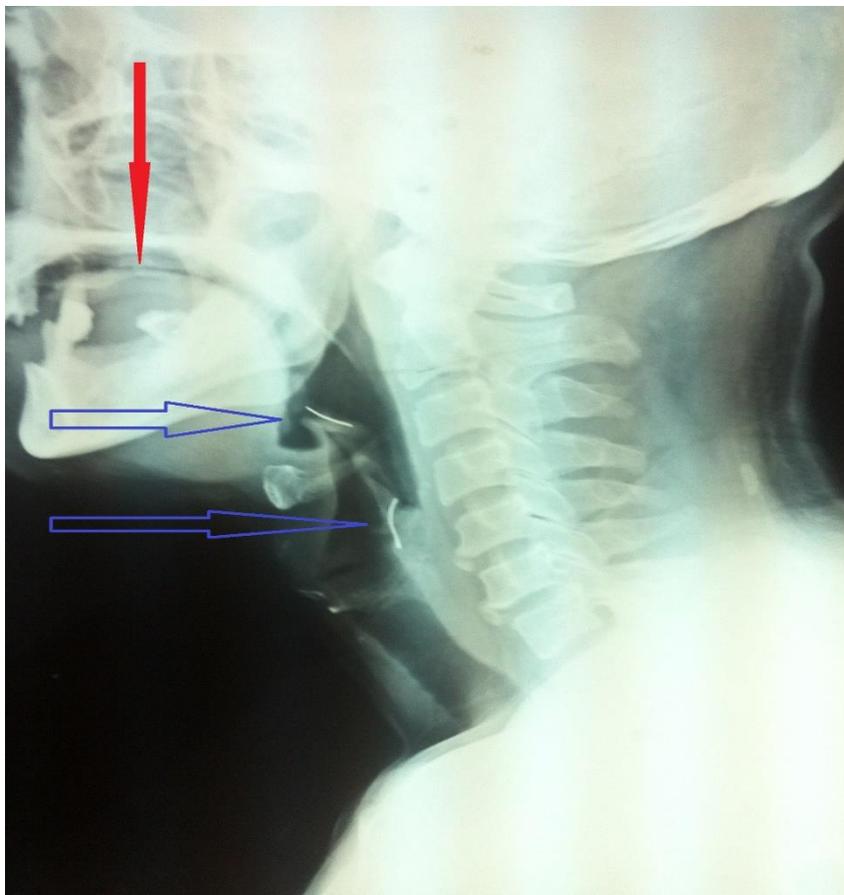
On examination general condition was good. He had tenderness over L1-L2 vertebral levels. Neurological examination was normal. Bowel bladders were also normal. On palpation neck was slightly tender antero-laterally. X rays of the Dorsolumbar spine and neck were advised. X ray D/L spine show anterior wedge compression of L 1 vertebra.[Figure 1] Neck X ray showed two curved radiopaque shadows [Figure 2]. On opening the mouth, teeth from the jaw were missing. Patient gave

the history of using artificial teeth which were now displaced up to the hypopharynx. Spinal brace was applied and patient was advised immediate ENT consultation.

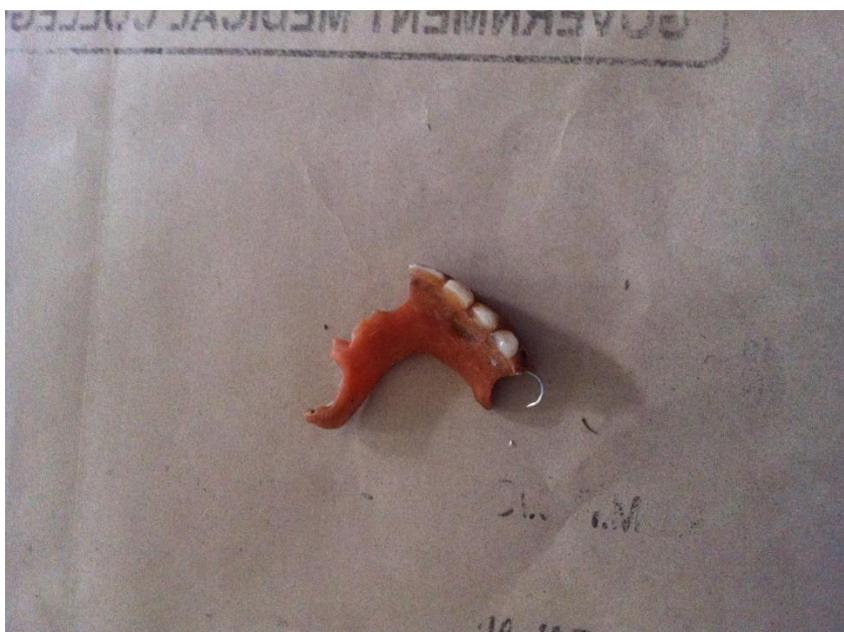
Patient was subjected hypo laryngoscopy and the artificial dentures were removed. [Figure 3] He was discharged on Dorsolumbar brace, analgesics and Bed Rest with advice to follow up in Out Patient Department which was uneventful.



**Figure 1 X ray showing Anterior Wedge Compression of L 1 vertebra**



**Figure 2: X Ray showing Foreign Body (Blue Arrow) with Absent Teeth (Red Arrow)**



**Figure 3 Removed artificial dentures.**

## Discussion

Fracture and dislocation of spine are serious injuries that most commonly occur in young people. Nearly 43% of patients with spinal canal injuries sustain multiple injuries. Krauss et al estimated that each year 50 people in one million sustain a spinal canal injury. [1]

If a spinal fracture is identified at any level, the entire spine should be examined with Antero-posterior and lateral views to

document the presence or absence of spinal fractures at other levels. Multiple level spinal fractures which may be contiguous or separated are estimated to occur in 3% to 5% of patients with spinal fractures. Multiple non-contiguous spinal fractures rarely occur without injury to the spinal cord.

Calenoff et al [2] reported an incidence of 4.5% in 710 patients admitted to a regional spinal cord injury unit. They described three pattern of injury.

Type	Primary fracture	Secondary fracture
Pattern A	C5 and C7	T12 or the Lumbar Spine
Pattern B	T2-T4	Cervical Spine
Pattern C	T12 and L2	L4 to L5

They noted that patients with multiple level, non-contiguous fractures had a disproportionate number of primary vertebral injuries in the middle and upper thoracic spine. If a fracture is identified at this level, a secondary vertebral injury should be suspected.

Wedge compression fractures as defined by McAfee are the result of failure of the anterior column by forward flexion forces. [3, 4, 5] They rarely are associated with the neurological deficit except when multiple adjacent vertebral levels are effected.

Medical management is the mainstay of treatment for these acute, painful compression fractures and includes Bed Rest, Analgesics, Braces and physical therapy. In general the acute pain resolves in 4 weeks to 8 months, but a spinal deformity may be the end result.

Many of these fractures are the end result of osteoporosis and relatively minor trauma. Apparently less painful; however, they seem to be associated in certain instances with an impaired quality of life, increased mortality, and significant morbidity. In a review of the clinical consequences of VCF, Silverman showed that with each successive fracture, pulmonary forced vital capacity was reduced by an average of 9%.[6] Lieberman in an unpublished data has shown that patient with VCF are at 23% increased risk of

mortality as compared with age-matched controls. In short long term consequences of the VCF are to be kept in mind while dealing with these patients. [7]

The associated fracture like Calcaneus, hip or tibia fractures have been reported in various literatures. [8]

Artificial dentures are made of many materials which vary from translucent to radio opaque. Mostly these are made of acrylic material. Even the plastic or porcelain dentures are not picked on x rays. The presence of wire however makes them visible on the x rays. When accidentally ingested/swallowed they cause foreign body sensations, dysphonia or dysphagia depending on the location where they stuck. [9]

Foreign bodies vary from the externally visible objects to the non-opaque neglected ones as described by Khan et al [10, 11]. Foreign body ingestion is in paediatric age group is common and mostly a coin (radio opaque) is the culprit. [12] However, in elderly bones or the bolus of meat have been reported. [13] Artificial denture has been reported as a cause of foreign body in elderly population. Diagnosis of artificial denture are difficult as patients are either unaware or present with vague symptoms. Artificial dentures due to their shape and size get impacted at different levels of oesophagus which may cause different complications like oesophageal

perforation, airway obstruction and fistula formation.[14] Decreased sensation of the oral cavity due to artificial dentures and the poor motor control of the laryngopharynx increases the risk of artificial denture ingestion.[15] Risk is high in mentally retarded and psychiatric patients.[16] Its association with vertebral fractures has not been reported in literature.

Conclusion:

This case highlights the need for looking artificial dentures by the emergency care physicians while dealing with the

trauma patients. The history should be asked in elderly patients who turn up with fractures following fall to rule out any artificial teeth ingestion.

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### References:

1. Krauss DR, Stauffer ES: Spinal cord injury as a complication of elective anterior cervical fusion, *Cl Orthop Relat Res.*1975:112-130
2. Calenoff et al as quoted by Campbell's Operative orthopaedics 11<sup>th</sup> Edition: Vol 2 Pages 1768-69.
3. McAfee PC: Biomechanical approach to instrumentation of the thoracolumbar spine: a review article, *Adv Orthop Surg*1985 8:313
4. McAfee PC, Levine AM, Anderson PA: Surgical management of thoracolumbar fractures, *Instr course lect*1995 44:47,
5. McAfee PC, Yuan HA, Lasda NA: The unstable burst fracture, *Spine*1982 7:365,
6. Silverman SL: The clinical consequences of vertebral compression fracture, *Bone*1992 13(suppl):27.
7. Lieberman as quoted by Campbell's Operative orthopaedics 11<sup>th</sup> Edition: Vol 2 Page 1815.
8. Walters JL, Gangopadhyay P, Malay DS. Association of calcaneal and spinal fractures 2014 May-Jun;53(3):279-81
9. Akazawa Y, Watanaba S, Nobukiyo S et al. The management of possible fishbone ingestion. *Auris Nasus Larynx* 2004.Dec; 31(4): 413-416
10. Khan HA, Kamal Y, Shah AB, Farooq M, Gani Nu, Khan MA, Hassan N, Bhat MS. Neglected Pencil Lead Removed after Four Years From Hand. A Very Rare Case Report and Review of Literature. *IJHSR.* 2014; 4(12): 383-386.
11. Ahmad Khan H et al. Fish Hook Injury: Removal by "Push through and Cut Off," Technique: A Case Report and Brief Literature Review. *Trauma Mon.* 2014;19(2):e17728
12. Yang C Y. The management of ingested foreign bodies in the upper digestive tract. A retrospective study of 49 cases. *Singapore Med J* 1991 Oct;32(5);312-315
13. Guitron A, Adalid R, Huertra F et al.Extraction of foreign body in oesophagus: experience in 215 cases. *Rev gastroentrol Mex* 1996 Jan-Mar;61(1):19-26
14. Khan MA, Hameed A, Chowdary AJ. Management of foreign bodies in the oesophagus. *J coll Physicians Surg Pak* 2004 Apr;14(4):218-220
15. Toshima T, Morita M, Sadanaga N et al. Surgical removal of a denture with sharp clasps impacted in the cervicothoracic esophagus: Report of three cases. *Surg Today* 2011 Sep;41(91):1275-1279
16. De Reuter MH, Van Damme PA, Dreth JP. Serious complications following removal of ingested partial denture. *Ned Tijdschr Geneesk* 2007 Jan 20;51(3):194-197