The Ulster Medical Journal, Volume 73, No. 1, pp. 57-58, May 2004.

Cervical osteophyte causing perforation of the nasopharynx

A Khan, T Farnan, SJ Hall, MJ McClure

Accepted 26 March 2004

Cervical osteophytosis causing perforation of the nasopharynx has not been reported. We record a case of a 70-year-old man who fell from a horse and developed surgical emphysema in his neck. The possible aetiology is discussed.

CASE REPORT

A 70-year-old man fell from a horse and landed on his head. He did not lose consciousness, but immediately noticed a slight change in the tone of his voice and was able to continue his normal activity. Later that day he noticed increasing swelling of his neck with associated dysphagia. He went to his local hospital Casualty Department and was referred to the Otorhinolaryngology Service after having his cervical spine x-rayed.

On admission ten hours after the injury, he complained of dysphonia and odynophagia. He also complained of decreased hearing and a blocked sensation in the right ear. Past medical history included benign prostatic hyperplasia and hypercholesterolaemia. He had long standing cervical spine osteoarthritis treated with simple analgesia. On examination, there was gross surgical emphysema of the neck. The cervical spine was diffusely tender on palpation, and no neurological deficit was evident. He was apyrexial and vital signs were stable.

Indirect laryngoscopy was not possible. Flexible laryngoscopy confirmed that his airway was patent and rigid nasendoscopy revealed a bony elevation in the nasopharynx with a small overlying tear.

There was obvious swelling of the posterior pharyngeal wall. Otoscopy of the right ear was normal.

Haematological investigations were normal. A lateral cervical spine radiograph (Fig. 1) demonstrated gross surgical emphysema, with abnormal gas seen in the retropharyngeal space and soft tissues of the neck. Prominent anterior osteophytes were noted at C2 and C3 vertebral endplates, with preservation of disc height. Multi-level anterior osteophyte formation and disc space narrowing were also seen at C5-7, consistent with osteoarthritis, rather than diffuse idiopathic sclerosing hyperostosis (DISH). An emergency CT neck examination confirmed gross surgical emphysema of the neck and clearly delineated the prominent osteophytes (Fig. 2). There was no evidence of other bony injury.

Fig 1. Lateral cervical spine radiograph demonstrating gross surgical emphysema.

Craigavon Area Hospital, 68 Lurgan Road, Portadown, Craigavon, BT63 5QQ.
Department of otorhinolaryngology,
A Khan MBBS,
T Farnan MRCS,
SJ Hall FRCS, Consultant ENT Surgeon
Department of Radiology
MJ McClure FRCR, Consultant Radiologist
Correspondence to Mr Hall

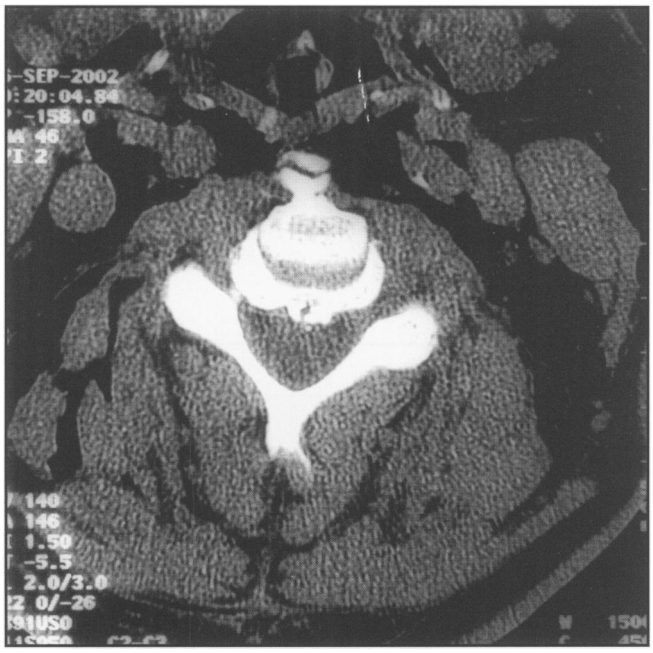

Fig 2. CT neck examination confirming gross surgical emphysema of the neck.

He was given an immediate dose of intravenous Dexamethasone and started on intravenous Co-amoxiclav thrice daily. He was allowed a soft diet. His voice and swallowing improved over a period of three days. There was also a reduction of the neck swelling. Repeat flexible and rigid endoscopy carried out on day three showed mild swelling of the posterior pharyngeal wall. Audiological assessment showed a symmetrical bilateral high frequency sensorineural hearing loss in keeping with presbycusis. He was discharged on day four on oral Co-amoxiclav.

At review in the outpatient clinic three days later, his symptoms had almost completely settled. There was no palpable surgical emphysema. Rigid nasendoscopy and indirect laryngoscopy were normal. He was discharged from follow-up.

DISCUSSION

To our knowledge, there are no previous case reports of cervical osteophytes causing perforation of the nasopharynx following a neck injury. A case of surgical empysema following a flexion-extension sports injury has been reported[1]. In that particular case, it is postulated that anatomical weakness at the pharyngo-oesophageal junction predisposed to perforation with minimal force of impact leading to surgical emphysema in the neck. Nasopharyngeal perforation as a complication of nasogastric intubation has been described in a patient who developed surgical emphysema in the neck after three failed attempts of nasogastric intubation[2]. Flexible endoscopy carried out the following day revealed a vertical 1 cm laceration in the midline of the nasopharynx.

Patients with diffuse idiopathic sclerosing hyperostosis (DISH), or Forestier's diesease, have extensive osteophyte formation of the anterior cervical vertebrae. However, in this condition the intervertebral disc spaces are preserved, which helps differentiate from the much more common condition of cervical osteoarthritis, in which disc space narrowing is the hallmark[3]. In this case, the narrowed disc height in the lower cervical region was consistent with osteoarthritis. The degree of osteophytosis seen on radiological investigation is however somewhat unusual. Chronic dysphagia may be associated with DISH[4].

We feel that our patient's dysphonia and dysphagia were due to the marked surgical emphysema of the pharynx and neck. The blocked sensation in his ear was probably due to eustachian tube dysfunction secondary to surgical emphysema of the nasopharynx. His presbycusis was incidental to this injury.

CONCLUSION

We postulate that prominent cervical osteophytes in this patient caused perforation of the nasopharynx due to the trauma sustained by falling from a horse. Air tracked through the perforation resulting in gross surgical emphysema in the neck as evident on clinical examination and supported by the findings on endoscopy, cervical spine radiograph and CT imaging. Symptoms resolved rapidly with conservative treatment.

REFERENCES

1. Vattakuzhiyil GJ, Konstantinidis I. An unusual case of surgical emphysema in the neck following sport injury. *J Laryngol Otol* 2002; **116**(1):73-4
2. Reussner LA, Blebea J, Peterson P, Ouriel K. Nasopharyngeal perforation as a complication of nasogastric intubation. *Ear Nose Throat J* 1993; **72**(11): 755-7
3. Murphy WA, Preston BJ. Joint Disease. In: Grainger RG, Allison DJ, Adam Dixon AK. *Diagnostic Radiology, A Textbook of Medical Imaging.* 4th ed. Edinburgh: Churchill Livingstone 2001: 2020-1
4. Kmucha ST, Cravens RP. DISH Syndrome and its role in dysphagia. *Otolaryngol Head Neck Surg*1994; 110(4): 431-6