Journal of Pediatric Surgery (2005) **40**, 593–596

ELSEVIER

Journal of Pediatric Surgery

www.elsevier.com/locate/jpedsurg

Cervical spondylodiscitis from an ingested pin: a case report

George M. Wadie*, Stanley H. Konefal, Mike A. Dias, Mark R. McLaughlin

Division of Pediatric Surgery, Baystate Medical Center, Tufts University School of Medicine, Springfield, MA, 01199 USA
Division of Otolaryngology, Baystate Medical Center, Tufts University School of Medicine, Springfield, MA, 01199 USA
Division of Neurosurgery, Baystate Medical Center, Tufts University School of Medicine, Springfield, MA, 01199 USA

Index words:
Cervical spondylodiscitis;
Discitis;
Esophageal foreign body

Abstract In the pediatric literature, only 1 case of cervical spondylodiscitis from an ingested foreign body is reported and this was caused by a blunt radiolucent foreign body. The authors now describe a unique case of a 13-year-old teenaged boy who presented with neck pain 6 days after accidental ingestion of a sewing pin. Uncomplicated removal of this pin was followed in 36 days by the development of cervical spondylodiscitis that failed conservative management and required surgical debridement and arthrodesis. Physicians should be aware of the possibility of this complication in any patient that presents with neck pain after foreign body ingestion.

Foreign body ingestion is a common event in the pediatric population, particularly between 6 months and 5 years, who are inclined to oral exploration of their environment [1,2]. Ingested foreign bodies vary from culture to culture and have evolved over time. The coin, however, remains the international favorite [3,4]. Sharp foreign bodies are uncommon in children [1]. Ninety to eighty percent of ingested foreign bodies pass through the gastrointestinal tract uneventfully. The remaining become lodged mainly in the esophagus and may cause serious injuries and rarely death [3,5,6]. Delayed presentation is common and symptoms are initially absent in 14% to 50% of cases [4,7,8].

Herein, we describe an unusual case of sewing pin impaction in the laryngeal introitus with late development of cervical spondylodiscitis after an uneventful removal.

1. Case report

A 13-year-old teenaged boy presented to our hospital complaining of neck pain and odynophagia 6 days after accidentally swallowing a sewing pin. The patient did not have any other symptoms. On examination he was afebrile and only had minimal discomfort of the posterior neck. Neck movement was intact in all axes and there was no neck swelling or crepitus. A lateral C-spine x-ray showed the sewing pin lying in an anteroposterior direction at the level of the laryngeal introitus with the sharp tip pointing against the anterior edge of the C4-C5 cervical vertebrae (Fig. 1). There was no evidence of retropharyngeal soft tissue air or swelling, no subcutaneous emphysema, and the chest x-ray was normal.

Patient received ceftriaxone 1 g intravenous (IV) and was taken to the operating room for direct laryngoscopy and removal of this foreign body. The pin traversed the laryngeal introitus making intubation impossible and ventilation was performed via the laryngoscope. To remove

* Corresponding author. Baystate Medical Center, Department of Surgery, 759 Chestnut St, Springfield, MA 01199.
E-mail address: geowadie2002@yahoo.com (G.M. Wadie).

0022-3468/05/4003-0029$30.00/0
doi:10.1016/j.jpedsurg.2004.11.023

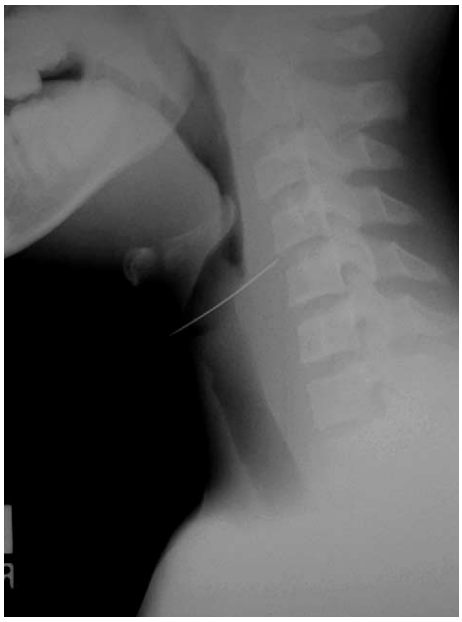

Fig. 1 Initial lateral neck x-ray with needle in the laryngeal introitus. The tip of the needle can be seen lodged between the C4 and C5 cervical vertebrae with no evidence of subcutaneous or mediastinal air.

the pin without causing a mucosal tear, its shaft (length 4.5 cm) was grasped and gently bent against the leading edge of the laryngoscope. The trailing sharp tip was thus withdrawn from the posterior pharyngeal wall. A microperforation of the posterior pharyngeal wall, where the sharp tip was lying, was noted at that time but no mucosal tear was identified. The child was kept overnight, received 2 additional doses of ceftriaxone, and was sent home on oral amoxicillin (400 mg)/clavulonate (57 mg) tablets twice a day for 2 weeks.

Thirty-six days after discharge, the patient presented again to the emergency department with progressive, severe neck pain, and right-sided arm numbness and tingling which started after he stopped the antibiotics. Initial examination revealed tenderness over the right lateral neck with limitation of neck movement in all axes. Neurologic examination was normal. His laboratory workup showed a normal white blood cell count (5.200/mm^3; normal, 4000-11000/mm^3), an elevated erythrocyte sedimentation rate (25 mm/h; normal, 0-15 mm/h), and an elevated C-reactive protein (3.8 mg/dL; normal, 0-0.9 mg/dL). His blood cultures revealed *Staphylococcus aureus* species 2 days after admission.

Plain x-rays and computed tomography (CT) scan with IV contrast of the cervical spine were interpreted as normal. Magnetic resonance imaging with gadolinium enhancement was obtained and revealed early findings of C3-4 discitis and a paravertebral tissue phlegmon with no spinal cord compression (Fig. 2). Patient was started on piperacillin-tazobactam 3.375 g IV every 6 hours. Antibiotics were switched to vancomycin 500 mg IV every 6 hours and clindamycin 600 mg IV every 8 hours after the results of blood cultures were available and this was associated with marked decrease in pain and improvement of neck movement. Subsequently, the patient was discharged on IV antibiotics which he received for 2 weeks and then oral clindamycin 600 mg every 8 hours for another 2 weeks.

Despite this intensive antibiotic course, the child came back to the hospital 2 months later with severe left-sided neck pain, neck tenderness, and stiffness together with left arm weakness and parasthesia. Laboratory results showed a normal white blood cell count (8000/mm^3). Magnetic resonance imaging demonstrated progression of inflammation to the C4 through C5 spinal level in the prevertebral tissues and narrowing and discitis at the C3-4 disk space without significant canal compromise or cord compression (Fig. 3).

Given the failure of antibiotic therapy, the anterior spinal abscess was drained through a neck incision with anterior cervical discectomy and plate arthrodesis of the C3 through C4 vertebrae, achieved successfully in face of infection. *S aureus* species was isolated from the tissues and IV oxacillin was started and continued at home for a

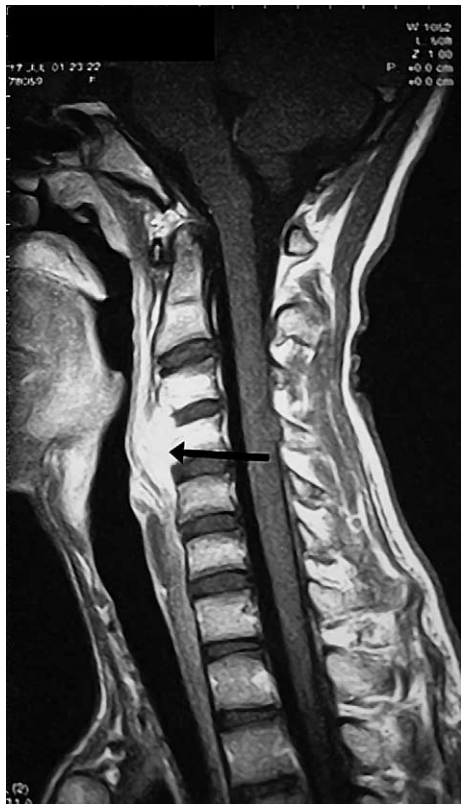

Fig. 2 Magnetic resonance imaging with gadolinium enhancement obtained during the second admission. There is early evidence of C3-4 discitis and a paravertebral tissue phlegmon (arrow). No spinal cord compression was identified.