Osteomyelitis following palatoplasty: a rare complication

Louis F Insalaco, MD1; Arnold S Lee, MD2; Andrew R Scott, MD2,3

1Department of Otolaryngology – Head and Neck Surgery, Boston Medical Center, Boston, MA
2Division of Facial Plastic and Reconstructive Surgery, Department of Otolaryngology – Head and Neck Surgery, Tufts Medical Center, Boston, MA
3Division of Pediatric Otolaryngology, Floating Hospital for Children - Tufts Medical Center, Boston MA

ABSTRACT

Objectives
To explore the events leading up to the development of osteomyelitis in a 13 month old boy following palatoplasty. Also to discuss the role of perioperative antibiotics in oropharyngeal surgery.

Study Design
Single case report with chart and literature review.

Methods
We present the case of a 13 month old boy who underwent palatoplasty, received perioperative antibiotics, and subsequently developed group A streptococcal bacteremia along with osteomyelitis of the right calcaneus. A literature review was done to explore the role of antibiotics in oropharyngeal surgery.

Results
The patient underwent treatment with antibiotics and the osteomyelitis resolved.

Conclusions
Surgeons and clinicians should maintain a high level of suspicion for bone and joint infections in any child presenting postoperatively with fever, bacteremia, and musculoskeletal symptoms. The role of perioperative antibiotics in the prevention of severe postoperative infections such as osteomyelitis is unclear. In the era of evidence-based medicine there is a movement to temper, if not eliminate, the once standard practice of discharging children on a short course of prophylactic antibiotics following palate repair. It should therefore be noted that even when these antibiotics are given, rare infectious complications may still occur.

INTRODUCTION

Orofacial clefts are the most common craniofacial malformations in newborns with a prevalence of approximately 1/1000 live births in the United States.1 Management of cleft palate is primarily surgical via a number of palatoplasty techniques. There is much debate on the utility or necessity of perioperative antibiotics in otherwise healthy individuals undergoing oropharyngeal surgery. Proponents of antibiotic use cite reduction in postoperative fever, pain, and recovery time as potential benefits.2 Rarely, serious infectious complications may occur following surgery in a clean/contaminated field.

We present a case of osteomyelitis of the calcaneus following palatoplasty in a 13 month old boy. Reviewing the literature, we found no reports of osteomyelitis following cleft palate repair. In this poster we review the controversy surrounding routine antibiotic use in oropharyngeal surgery and touch on prior reports of serious infection complicating cleft palate surgery.

CASE PRESENTATION

A 13 month old boy was brought to an outside hospital by his parents with sudden onset of high fevers and a limp. Two weeks prior to presentation, the patient underwent a two flap palatoplasty repair of an incomplete cleft palate. The patient received a second generation cephalosporin intraoperatively. Postoperatively the patient did well and was discharged home with a 7 day course of amoxicillin. After completing the antibiotics, the patient began to have low-grade fevers to 101°F. The fevers increased to 103°F three days prior to presentation. His parents reported that he had also had a limp since the fevers started. On physical exam his oropharynx appeared normal without evidence of surgical site infection. The patient walked with an externally rotated right foot, dragging the right leg behind. Blood and throat cultures drawn at the outside hospital grew group A streptococcus (GAS). He was admitted and started on IV ampicillin/subactam. He was then transferred to our institution for further evaluation.

IMAGING/WORK-UP

The patient underwent a triphasic bone scan which showed moderate asymmetric radiotracer uptake of the right calcaneus in all three phases consistent with osteomyelitis (Figure 1a and b).

OUTCOME

The patient received eight days of IV ceftriaxone, followed by two days of 1M ceftriaxone, followed by 18 days of oral high dose amoxicillin. The patient's bacteremia and osteomyelitis resolved with antibiotic treatment and the patient is doing well two years later.

REFERENCES


DISCUSSION

It has been documented that bacteremia as well as postoperative fever are common sequelae of palatoplasty.3,4 However, frank infections are less common, occurring in about 13% of operations.5 Perioperative antibiotics have been shown to reduce post-operative fever, pain, and recovery time in post-tonsillectomy patients.2

Recent guidelines published by the American Academy of Otolaryngology – Head and Neck Surgery in 2011 made a strong recommendation against the use of perioperative antibiotics for tonsillectomy patients stating that the harms of antibiotics, which include rash, allergy, gastrointestinal upset, and microbial resistance, outweigh any potential benefits.6

In this case, the patient received a 7 day postoperative course of amoxicillin and subsequently developed GAS osteomyelitis. Young children are susceptible to acute hematogenous osteomyelitis in the setting of bacteremia due to the rich vascular supply of rapidly growing bones.7 We believe this to be the most likely explanation for the development of osteomyelitis in this patient.

Despite the high frequency of postoperative bacteremia in cleft palate repair, osteomyelitis has not been described in the literature as a complication. As to why this complication does not occur more frequently in palatoplasty, there is no clear explanation. The question of whether perioperative antibiotics could help prevent cases of postoperative osteomyelitis also is unclear as there have not been any other reports of such a complication following palatoplasty. Thus the number needed to treat to prevent one case would be extraordinarily high.

CONCLUSIONS

• Surgeons and clinicians should maintain a high level of suspicion for bone and joint infections in any child presenting postoperatively with fevers, bacteremia, and musculoskeletal symptoms.
• In the era of evidence-based medicine there is a movement to temper, if not eliminate, the once standard practice of discharging children on a short course of prophylactic antibiotics following palate repair. It should therefore be noted that even when these antibiotics are given, rare infectious complications may still occur.