

AIR GUN PELLET IN MAXILLARY SINUS

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ABSTRACT

Foreign bodies are occasionally found in maxillary sinuses. They may result from the escape of material through an oroantral fistula or from trauma. Rarely, they occur as a complication of a dental procedure. However, the presence of foreign bodies in maxillary sinuses as a result of penetrating trauma is uncommon. Most of these have been the results of trauma after vehicle accidents, gunshot injuries or other trauma. The author presents two cases of transfacial penetrating injuries of the maxillary sinus caused by air gun pellets. In both cases the mucosa of the antrum appeared normal due to short stay of the foreign body.

Key words: Foreign body, Air gun pellet, Maxillary sinus

INTRODUCTION

Foreign bodies in the maxillary sinuses are not common¹. Metal foreign bodies of dental origin include dental implants², silver points³, dental burs⁴, amalgam⁵ and reamer⁶. Other metal foreign bodies are occasionally found in the sinuses as a result of facial trauma⁷.

Two cases of air gun pellets in maxillary sinuses are reported. Primary surgery was performed in both the cases but failed to recover the foreign bodies.

CASE-1

A 13 year old girl was referred to us by a general surgeon for management of air gun pallet from her right cheek after he failed to retrieve the same through an extra oral approach. This was obvious from the unsightly scar on her right cheek (Fig 1). On intra oral examination, she had slight tenderness in upper right buccal sulcus. Her two weeks old OPG revealed a radio-opaque shadow resembling an air gun pellet near the lateral wall of right maxillary sinus (Fig 2). Another OPG was taken to see whether the pellet is in the same place or has changed its position (Fig 3). It was interesting to see that the pellet has slightly changed its position. After routine investigation, a Caldwell-Luc approach incision was given and the entrance hole in the anterior antral wall was identified. The pellet was retrieved through this entrance hole with the help of thin high powered suction tip (Fig 4). The sinus as well as the wound was irrigated and closed primarily. The patient was given a course of postoperative antibiotics and decongestants for 10 days following surgery. The immediate and long-term recovery was uneventful. There was minimal surgical edema. The maxillary division of the trigeminal nerve showed no signs of nerve injury and the wound healed completely.

CASE-2

A 30 year old female was referred to Khyber College of Dentistry by a general surgeon of District Head Quarter Hospital for management of air gun

pellet from her right cheek after he failed to retrieve the same. Again an extra oral approach was made as seen from the scar on her right cheek (Fig 5). Clinical examination did not reveal any sign of intra oral inflammatory changes. An ortho-pantomogram revealed the presence of a radio opaque foreign body in the floor of the right maxillary sinus (Fig 6). After routine investigation, she was admitted in Oral & Maxillofacial Surgical Unit of Khyber College of Dentistry and was operated under general anesthesia. A mucoperiosteal flap was raised for a Caldwell-Luc procedure through a sublabial incision. A very small fistula was identified about 1cm above the second premolar and first molar. This was slightly enlarged for access to the foreign body. The pellet was easily identified and retrieved with the help of fine curved artery forcep. The sinus was irrigated and the mucoperiosteal closed with 3/0 black silk. Post operatively she was given a course of antibiotics and decongestants for 10 days. The patient was discharged from the hospital the following day. The immediate and long-term recovery was uneventful. The wound healed completely and testing showed no signs of nerve injury,

DISCUSSION

Cases of air gun pellet lodged in maxillary sinus are reported in literature^{8,9}. Authorities recommend removal of metal foreign bodies from the paranasal sinuses for different reasons, namely;

- 1 The weight, size and chemical composition of metal foreign body can cause chronic irritation of the mucosa, leading to partial or complete ciliar insufficiency¹⁰.
- 2 If the metal is lead, there is concern for an increased risk of lead poisoning, particularly in children¹¹.
- 3 To prevent any theoretical or practical possibility of the development of malignant mucosal alteration¹².

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Fig 1: Scar on right cheek



Fig 2: OPG reveals a radio-opaque shadow resembling an air gun pellet



Fig 3: OPG taken 2 weeks later shows changed position of the pellet

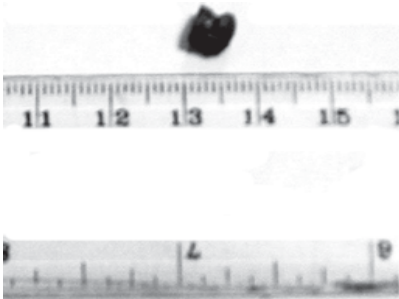


Fig 4: The retrieved pellet



Fig 5: Scar on right cheek



Fig 6: OPG reveals a radio-opaque shadow resembling an air gun pellet

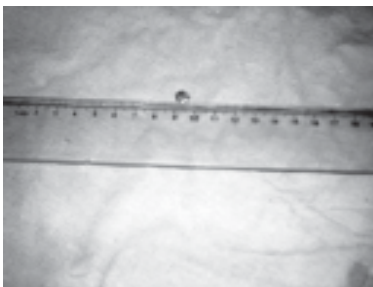


Fig 7: The retrieved pellet

The above mentioned reasons may lead to complications over certain period of time but in the present cases the air gun pellets were not recovered in the first attempt. It also lead to ugly scar on the face. Moreover, the patients and their attendants became more anxious when the first attempt of surgery to recover the foreign bodies failed.

In author's opinion a foreign body in maxillofacial region must be properly evaluated before any surgical intervention to avoid extra oral approach and scar. The present cases also demonstrate the need to remove foreign bodies for psychological reasons.

CONCLUSIONS

Airgun injuries to the paranasal sinuses are relatively uncommon. Foreign bodies in the paranasal sinuses should be removed to prevent long-term sequelae, as well as for psychological reasons

REFERENCES

- 1 Connolly AA, White P. How I do it: Transantral endoscopic removal of maxillary sinus foreign body. *J Otolaryngol* 1995;24 (1):73-4).
- 2 Guler N, Delilbasi C. Ectopic dental implants in the maxillary sinus. *Quintessence Int.* 2007 ;38(5):e238-9
- 3 Kfir Y, Shem-Tov A. An endodontic silver point in the maxillary sinus. Report of a case. *Oral Surg, Oral Med, Oral Pathol.* 1980;49 (3):208-10.
- 4 Abe K, Beppu K, Shinohara M, Oka M. An iatrogenic foreign body (dental bur) in the maxillary antrum: a report of two cases. *Br Dent J* 1992; 173: 63-65.
- 5 Scorticati MC, Raina G, Federico M. Cluster-like headache associated to a foreign body in the maxillary sinus. *Neurology* 2002; 59: 643-644.
- 6 Donlon WC. Reamer in the maxillary antrum: a complication of periapical surgery. *Oral Surg, Oral Med, Oral Pathol.* 1989 ;68(1):122-3.
- 7 Fan VT, Korvi S. Sewing needle in the maxillary antrum. *J Oral Maxillofac Surg* 2002; 60: 334-336.
- 8 Mahajan M, Shah N. Accidental lodgment of an air gun pellet in the Maxillary sinus of a 6-year old girl: A case report. *Dent Traumatol.* 2004 ;20(3):178-80.
- 9 O'Connell JE, Turner NO, Pahor AL. Air gun pellets in the sinuses. *J Laryngol Otol.* 1995 ;109(11):1097-100.
- 10 Stammberger H. Complications of inflammatory paranasal sinus diseases including iatrogenically-induced complications. *Eur Arch Otorhinolaryngol Suppl* 1993; 1: 61-102.
- 11 Brinson GM, Senior BA, Yarbrough WG. Endoscopic management of retained airgun projectiles in the paranasal sinuses. *Otolaryngol Head Neck Surg* 2004;130(1):25-30.
- 12 Mladina R. Endoscopic sinus surgery: A metallic foreign body at the sphenothmoidal junction. *J Laryngol Otol* 1992; 106: 998-999.