

Button Battery in Nasal Cavity: A Delayed Case

Nazal Kavitede Saat Pili: Gecikmiş Bir Vaka

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ABSTRACT

Button batteries (BB) are frequently used little energy sources. Their Luminous appearance make them attractive for children and tempt them to put into their noses, mouths and ears. Due to chemical intent of BB, tissue damage may be seen in the nasal cavity, external auditory meatus or esophagus. We present a 12-year-old male with a BB put in his right nasal cavity seven years ago, when he was 5 years old. BB was removed under general anesthesia. This case was reported due to its rarity and absence of any complications.

Keywords

*Nasal cavity, rhinolith; battery;
foreign body*

ÖZET

Saat pilleri sıklıkla kullanılan küçük enerji kaynaklarıdır. Parlak görünüşleri nedeni ile çocuklar için etkileyici olmaktadır ve çocuklar cisimleri burunlarına, ağızlarına ve kulaklarına sokmaktadır. Piller kimyasal içerikleri nedeni ile nazal kavitede, dış kulak yolunda ve özefagusta doku hasarına neden olabilirler. Bu yazıda 7 yıl önce 5 yaşında iken sağ burun deliğine saat pili sokan ve tanısı konamamış olan 12 yaşındaki erkek hasta sunulmuştur. Yabancı cisim genel anestezi altında çıkarıldı. Komplikasyon gelişmemesi ve nadir görülmesi nedeni ile bu vaka sunulmuştur.

Anahtar Sözcükler

*Nazal kavite; rinolit; pil;
yabancı cisim*

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INTRODUCTION

Improvement of technology and reduction in the size of electronic devices, little batteries are used frequently. Watches, hearing aids, electronic game devices, little light sources, toy cars and various gadgets are work with BB.¹ BB contain various chemical agents such as potassium hydroxide and silver oxide. Tissue damage occurs due to chemical agent leakage or chronic low voltage irritation leading to liquefaction necrosis.²

Few cases have been reported in the literature considering BB in the nasal cavity, ear and esophagus. BB may cause tissue necrosis leading to nasal septum, tympanic membrane and esophagus perforation. BB in esophagus have a more mortal clinical course when compared to ear and nasal foreign bodies. Death is reported due to esophagus perforation and mediastinitis.^{2,3}

We present a 12-year-old male case in this paper with a BB in his right nasal cavity for a long time (seven years) without any complications.

CASE REPORT

A 12-year-old male patient admitted to our clinic with right nasal discharge. Routine ear nose and throat examination revealed a foreign body with dense purulent discharge in the right nasal cavity. Foreign body was mobile and crabby when palpated (Figure 1). We decided to stick out the foreign body under general anesthesia. An informed consent was taken from the parents of the patient preoperatively. Paranasal computerized tomography (PNCT) was performed for potential nasal or paranasal complications preoperatively. PNCT revealed a round, well circumscribed radioopaque foreign body in the right nasal cavity (Figure 2).

When foreign body removed, it was seen that it was a BB with rhinolith formation (Figure 3). When the patient's history was investigated deeply, the parents remembered that he had put a BB into his nose, but he was misdiagnosed because he did not go to an otorhinolaryngologist.

No complications occurred such as septal perforation or turbinate necrosis. Patient was discharged on day after the intervention without any complications.

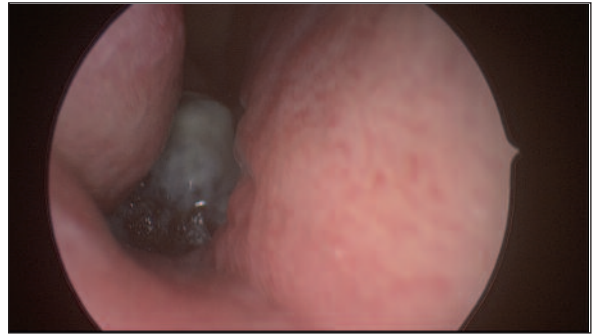


Figure 1. Foreign body in right nasal cavity.



Figure 2. Computerized tomography, axial section. Note the well-circumscribed radiopaque foreign body in right nasal cavity.



Figure 3. Button battery removed out of right nasal cavity. Note rhinolith formation.

DISCUSSION

BB are frequently used little energy sources for electronic devices. Because of their appearance and size, children put them into their nose, ear and mouth frequently. Esophagus, ear and mouth are the anatomic sites where children mostly put them in. BB in esophagus are more fatal when compared to ear and mouth BB foreign bodies due to mucosal perforation and mediastinitis.¹⁻³

Exposure of BB to moisture may lead to chemical burns due to leakage of its contents. Electric burns are caused due to chronic low voltage irritation. Both chemical and electric burns lead to liquefaction necrosis and tissue destruction.^{2,4} Because of these dangerous complications, BB are recommended to be removed immediately.

Our patient was misdiagnosed when his parents suspected for a foreign body when he was 5 years old. Interestingly no complications occurred such as septum perforation or turbinate necrosis. This may be due to low battery life or early rhinolith formation around the BB.

Rhinolith formation was first reported in 1654 by Bartholin. It occurs in the nasal cavity around foreign bodies or endogenous structures such as tooth or bony fragments. Foul smell, purulent discharge, epistaxis, nasal obstruction may be seen in relation with the size of the rhinolith or foreign body. In this paper, the patient was suffering from nasal purulent discharge, obstruction, and foul smell. BB formed the nidus for rhinolith formation.⁵ Incidence of rhinolith formation is very low, and it accounts for 1 in 10,000 patients.⁶

PNCT is a good choice for detecting potential nasal and paranasal pathologies. In this case we performed PNCT preoperatively, and a round, radiopaque, well-circumscribed foreign body was identified.

CONCLUSION

BB are frequently seen foreign bodies especially in children. It is recommended to remove them as soon as possible because of complications related to chemical and electrical burns.

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