

## CASE REPORT: LATE CLINICAL FINDING OF A FIREARM INJURY OF THE SACROCOCCYGEAL REGION

## OLGU SUNUMU: SAKROKOKSİGEAL BÖLGE ATEŞLİ SİLAH YARALANMASI SONRASI GEÇ DÖNEM KLİNİK TABLO

\*Yüksel Kankaya, \*\*Melike Oruç, \*Utku Can Dölen, \*Nezih Sungur, \*Ruşer Barış, \*Uğur Koçer

\*Ankara Eğitim ve Araştırma Hastanesi, 1. Plastik, Rekonstrüktif ve Estetik Cerrahi Kliniği, Ankara / TÜRKİYE

\*\*Isparta Devlet Hastanesi, Plastik, Rekonstrüktif ve Estetik Cerrahi Kliniği Isparta / TÜRKİYE

## ÖZET

Pilonidal sinüs, sakrokoksigeal bölgenin en sıkıntılı hastalıklarından biridir. Özellikle aşırı kıllı olan genç erkeklerde görülür ve yüksek morbiditeye sahiptir. Bu olgu sunumunda yıllar önce ateşli silah ile yaralanmış ve sakral bölgesinde kalan fişek nedeniyle pilonidal sinüs benzeri şikayetleri (ağrı, abse ve pürülan akıntı) olan bir hastayı paylaşmak istedik. Hasta spinal anestezi altında ameliyat edilerek sakral bölgedeki absesle birlikte olan fişek ve sağ trokanterik bölgeden sol gluteal bölgeye uzanan fistül hattı çıkarıldı. Defekt V-Y ilerletme flebiyle kapatıldı. Ateşli silah yaralanmalarının görünen ve görünmeyen (beklenmedik) sonuçları olabilmektedir. Ateşli silah yaralanması sonrası sakral bölgede kalmış olan fişegin pilonidal sinüs gibi belirtilere ve bulgulara neden olması ilginç ve şaşırtıcıdır. Bu olgu sunumuyla, ateşli silah yaralanması ile gelen hastanın dikkatli muayene ve tetkik edilmesinin önemini vurgulayarak literatüre katkıda bulunmak istedik.

**Anahtar kelimeler:** Sakrum; fistül; ateşli silah; mermi; fişek; kovan

## ABSTRACT

Pilonidal sinus is one of the most irritating sacrococcygeal region disease with high morbidity which is mostly seen in hairy, young males. In this case report, we want to share a patient who was injured by gun shot several years ago and suffers from symptoms (pain, abscess and purulent drainage) similar to pilonidal sinus due to cartridge retained in the sacral region. Patient is operated under spinal anesthesia; abscess formation with retained cartridge and fistula tract covering an area between right trochanteric and left gluteal region are totally excised and the defect is closed with V-Y rotation advancement flap. In conclusion, injuries caused by gun shot have visible and invisible (unexpected) consequences at the same time. Retained cartridge after a gun shot injury is an astonishing cause for symptoms similar to sacral pilonidal sinus. We assume that this case report would contribute to the literature by emphasizing the importance of attentive assessment and exploration of a gunshot wounded patient.

**Keywords:** Sacral; fistula; gunshot; retained

## INTRODUCTION

Pilonidal sinus is one of the most irritating sacrococcygeal region disease with high morbidity in adult patients. Regarding to the latest literature, the reason of pilonidal sinus is deep implantation of the hair follicles into the dermis in the intergluteal cleft due to repetitive minor traumas and the foreign body reaction on the ground of chronic inflammation.<sup>1</sup> This chronic inflammation leads to progressive abscess which drains through multiple fistula tracts.

Gun shot wounds could cause a wide range of injury from soft tissue wound to multiple organ lacerations in each different part of the whole body. In order to prevent possible life threatening complications patient must be evaluated elaborately. In this case report, we want to share a patient who was injured by gun shot several years ago and suffers from symptoms similar to pilonidal sinus due to retained cartridge on his sacral region.

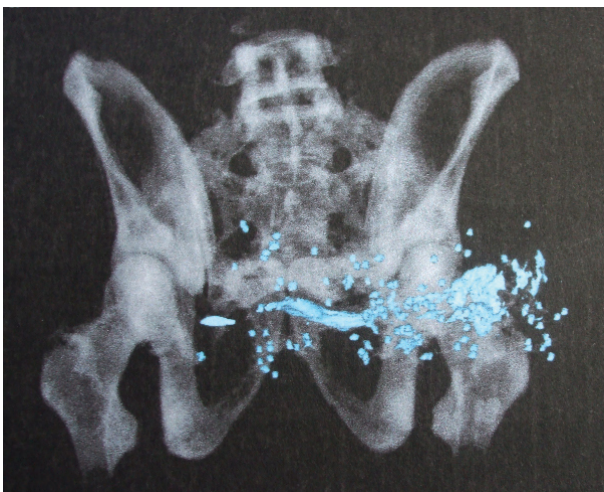
## CASE REPORT

Patient who had gun shot injury about fifteen years ago, treated and followed in intensive care unit with multiple interventions. Tissue defect on the sacral region could not be operated and was left to secondary healing due to patient's life-threatening condition. Patient started to suffer from intermittent sacral purulent drainage with occasionally increased in intensity after the wound was healed. On physical examination, approximately 10x4 cm scar with one fistula opening is seen on the sacral region from midline to the left gluteal region (Fig. 1). However, on the preoperative fistulogram (Fig. 2), abscess formation and fistula tract starting from its opening, traversing through whole right gluteal region and ending in the right trochanteric region are observed. Fistulogram is quite astonishing because fistula tract is very long for only one opening and largest part of the cavity is situated in the area of right trochanter major where there is no fistula opening. Moreover, patient doesn't complain from any pain in the right trochan-

teric area. Another interesting point is the absence of contrast agent around most of the pellets which means they have no relation with the sinus tract. In the operating room, under spinal anesthesia surgery is started by injecting methylene blue through fistula opening which is on the sacral midline. Methylene blue stained fistula tract is resected with healthy margin. During the dissection we come along with some of the pellets in the healthy, non-stained tissue and we observed that they were encapsulated by a fibrous tissue which separated them from sinus tract. We continue our resection till right trochanteric region where we find a 10 x 6 cm. abscess formation which covers the plastic and metal combination of the cartridge. Whole fistula tract, abscess and the cartridge are removed ( Fig. 3 ). It has been proved that fistula openings and scar tissues are in high risk for malign transformation.<sup>1,2</sup> In order to prevent this, we excised the 10 x 4 cm. scar tissue then defect is restored with V – Y rotation advancement flap ( Fig. 4 ). Patient has no postoperative complication.



**Figure 1.** Preoperative view of fistula opening surrounded by scar tissue on the sacral region



**Figure 2.** Preoperative image of fistulogram



**Figure 3.** Intraoperative view of the fistula tract with exploded cartridge and pellets surrounded by abscess formation.



**Figure 4.** Postoperative sixth month view of healed wound reconstructed by V-Y rotation advancement flap

## DISCUSSION

Pilonidal sinus is mostly seen in hairy, young males in the sacrococcygeal region with the cycle of painful abscess and purulent, foul-smelling drainage from multiple fistula openings.

Blast injuries are classified generally under three groups: Primary, secondary and tertiary. Primary blast injuries' cause is pressure wave occurred after explosion and chiefly organs that contain air inside like lung, ear and gastrointestinal system are affected. Secondary and tertiary blast injuries are frequently accompanied by primary blast injuries. While secondary blast injuries are comprised by the penetration of explosive materials, tertiary blast injuries are a result of relation between the patient and environment or soil.<sup>3,4</sup>

Secondary blast injuries are frequently accompanied with vascular injuries which obstruct their treatment. Meanwhile foreign bodies which wound the pati-

ent could complicate the situation by staying inside the body. In 1560, Botallo was the first to suggest causes of serious results such as gangrene, followed by limb amputation or death, after gun shot are retained foreign bodies and dead tissue. How much it seems easy to remove foreign bodies spread out the body, the chance of oversight is quite possible which would increase the seriousness of injury in longterm.

In the literature, there are many articles about retained foreign body ended up gastrointestinal system problems.<sup>5</sup> Also retained intra-articular bullets would surely cause degenerative arthritis and lead toxication (mostly chronic plumbism).<sup>6,7</sup> In this patient, it is verified that pellets are totally inert and do not cause any inflammation or infection as they are completely separated from surrounding tissues by fibrous encapsulation. However, we observe sinus tract as a result of the inflammation and infection, along the way of the cartridge that harmed the tissues while passing through. Necrotic tissues creates environment for infection and if this area is not small enough to enclose by the fibrous tissue, it would conclude with serious abscess and sinus formation as seen in our case. Botallo described that dead tissues have worse effects than foreign bodies like we have experienced in our case.

Last of all, injuries caused by gun shot have visible and invisible (unexpected) consequences at the same time. Therefore assiduous physical examination, further radiological imaging, adequate dissection and debridement are very important in wounded patient evaluation and follow-up. Retained cartridge after a gunshot injury is an astonishing cause for symptoms similar to sacral pilonidal sinus. We assume that this case report would contribute to the literature by emphasizing the importance of attentive assessment and exploration of a gun shot wounded patient.

Dr. Utku Can DÖLEN  
Safranbolu Cd Urla Sk. No:11 Konutkent-2 Çayyolu  
Ankara, TÜRKİYE  
E-posta: utkuchan@gmail.com

## REFERENCES

1. Çilingir M., Eroglu S., Karacaoglan N., Uysal A. Squamous Carcinoma Arising From Chronic Pilonidal Disease. *Plast Reconstr Surg* 2002 Sep;110(4):1196-8.
2. Rudolph R., Zelac DE. Squamous Cell Carcinoma of the Skin. *Plast Reconstr Surg* 2004 Nov; 114(6):82-94.
3. Ad-El D.D., Eldad A., Mintz Y. Suicide Bombing Injuries: The Jerusalem Experience of Exceptional Tissue Damage Posing a New Challenge for the Reconstructive Surgeon. *Plast Reconstr Surg* 2006;118 (2); 383-7.
4. Leibovici D., Gofrit O. Bus versus open-air bombing: A comparative study of injuries in survivors of open-air versus confined-space explosions. *J Trauma* 1996; 41: 1030-5.
5. Symonds R.P., Mackay C. Late effect of grenade fragments. *J.R. Army Med Corps* 1985; 131 (2);68-9.
6. Rehman MA, Umer M, Sepah YJ, Wajid MA. Bullet-induced synovitis as a cause of secondary osteoarthritis of the hip joint: A case report and review of literature. *J Med Case Reports* 2007 Dec 5;1:171-6.
7. Farrell SE, Vandevander P, Schoffstall JM, Lee DC. Blood lead levels in emergency department patients with retained lead bullets and shrapnel. *Acad Emerg Med* 1999 Mar;6(3);208-12.