A Conscious Patient: Taking a Foreign Object Out with the Help of a Magnet: Case Report

Bilinçli Bir Hasta; Mıknatıs Yardımlı Yabancı Cisim Çıkarılması

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ABSTRACT The penetration of a foreign object may occur due to various reasons such as explosion, work accident, traffic accident or any accidents which occur due to a trauma while the victim is dealing with any object. In this case presentation, a case was presented in which a patient who doubted for a foreign object penetration in his hand applied to the orthopedics clinic with a magnet in his other hand, and almost diagnosed himself. In the examination, the magnet was held close to his hand and upon feeling the foreign object in the soft tissue. Local anesthesia and incision was applied to the area. After the subcutaneous area was passed, the magnet was held close to the foreign object, and when it adhered to the magnet. It was taken out and the patient was sent back to work with a more functional hand. Although taking out foreign objects from soft tissue is like looking for a needle in the haystack for us, orthopedic surgeons, excision of foreign objects in soft tissue with the help of a magnet may be a good preference if they are not very deeply located. In this case presentation we see that a conscious patient's and a magnet how could facilitate doctor's business.

Key Words: Foreign bodies; magnets

ÖZET Yabancı bir cismin vücuda penetrasyonu patlama, iş kazası, trafik kazası ya da herhangi bir cisimle uğraşma sonucu travma sebebiyle farklı nedenlerle oluşabilir. Bu olgu sunumunda, bir yıl önce eline yabancı cisim penetrasyonu şüphesi olan hasta, ortopedi polikliniğe elinde mıknatısla gelerek, neredeyse kendi teşhisini koyarak, muayenede elindeki mıknatısa cildin tutunması görüldükten sonra yumuşak doku içindeki metal yabancı cisimden şüphelenildi. Bölgeye lokal anestezi ve insizyon cerrahi uygulandı. Subkutanöz doku geçildikten sonra, mıknatıs yabancı cisme yaklaştırılınca, eldeki yabancı cisim mıknatısa yapıştı. Yabancı cisim çıkarıldı ve hastanın iş hayatına daha rahat ve fonksiyone el ile döndüğü görüldü.Yumuşak doku içerisinde yabancı cisimi aramak ortopedik cerrahlar için samanlıkta iğne aramaya benzemesine rağmen derin yerleşimli olmayan yabancı cisimlerde mıknatıs kullanımı iyi bir tercih olabilir. Bu olgu sunumunda bilinçli bir hasta ve mıknatısın doktorun görevini ne kadar kolaylaştırabildiğini görmekteyiz.

Anahtar Kelimeler: Yabancı cisimler; magnetler

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Perforating injuries and foreign object penetration are among frequent injuries in orthopedics clinics. When the literature is scanned for foreign objects, it is observed that the incidences are related almost with all branches of medicine, and they can be treated with different modalities. The penetration of a foreign object may occur due to various reasons such as explosion, work accident, traffic accident or any accidents which occur due to a trauma while the victim is dealing with any object.[1] Upon these traumas, usually injuries in subcutaneous soft tissue are observed.[2] After the

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penetration of a foreign object, it is important in a good healing management that it is taken out for a primary wound healing process. Soft tissue and foreign object injuries are mostly observed in feet because feet are subject to more traumas during walking. It is reported in the literature that after orthopedic surgeries, broken drill tips, broken kischner wire, and granuloma and similar complications may occur.[3] Metal fragments may be identified with X-ray, computed tomography (CT), sonography, or electromagnetic metal detectors.[4] Foreign objects may be wood, glass or metal parts and in similar other forms or shapes.[5]

In this case presentation, a case was presented in which a patient who doubted for a foreign object penetration in his hand applied to the orthopedics clinic with a magnet in his other hand, and almost diagnosed himself. In the examination, the magnet was held close to his hand and upon feeling the foreign object in the soft tissue, it was taken out and the patient was sent back to work with a more functional hand.

CASE REPORT

A 23-year-old male patient had an injury in his hand in his workplace, in the metal workshop of a ceramic factory, while he was working as an employee, one year ago, without noticing, and after this time he felt a constant pain in the thumb web space for one year which he could not make sense of. When he kept a magnet with a powerful magnetic field which they used in his workplace close to his hand, he noticed that his skin came closer to the magnet in the thumb web space, and felt pain in the same place, and applied to the orthopedics clinic. The patient came to our clinic with a magnet in his hand, and when he closed the magnet to his hand, it was observed that a foreign object in the thumb web space moved forward towards the magnet for 2-3 cm. When the patient applied to the polyclinic, no infection was observed in his hand. The range of motion of the hand was evaluated as being normal. When the infection tests and X-ray graphics of the patient were examined, it was observed that there were no infections; however, a foreign object was detected in the thumb web space. It was decided that the foreign object would be taken out because it affected his work life. The patient was asked to bring the magnet with him. The magnet was sterilized and was wrapped in a sterile drape, and the foreign object was localized by keeping the magnet close to the hand (Figure 1, 2). Then local anesthesia and incision was applied to the area. After the subcutaneous area was passed, the magnet was held close to the foreign object, and when it adhered to the magnet (Figure 3), it was excised with a gripper and scissors. The patient could start his work life comfortably after one month.

DISCUSSION

Foreign objects in soft tissue and excision of them are observed frequently in orthopedics clinics and practices. We can also see foreign objects frequently in the soft tissue in the hands. It is known by the orthopedic surgeons that looking for foreign objects in soft tissue is like looking for a needle in a haystack. Cases in which excision of foreign objects from the eye, brain, sinuses with the help of magnet have been reported in the literature.[6-8] When the literature is scanned, it is observed that there are some studies in which foreign objects are excised with the help of magnets.[9] If foreign objects are not excised from the body, complications like infection, inflammation, toxic reaction and granuloma may be observed. Excision of foreign objects from soft tissue with the help of magnets decreases the risk of radiation to which the patient will be subjected, decreases the costs, and eliminates the

FIGURE 1: The determination of the location of the foreign body with the help of magnet.

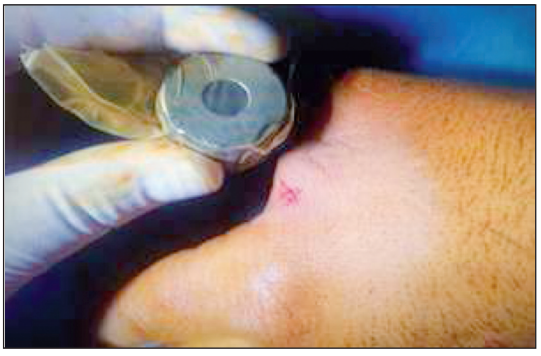

FIGURE 2: After a local anesthetic is applied to cover the surgical field of painting and magnet sterile drape.

FIGURE 3: After skin incision, when magnet close to the foreign body, soft tissue adhered to the magnet.

above mentioned complications.[5] Applying incision to the hands, which are very important in terms of functions, requires extra care so as not to harm the neighboring tissues or organs. By using magnets, the diagnosis of foreign objects becomes easier, and this diagnosis method is equal to X-ray, CT, and Ultrasonography. Diagnosing with the help of a magnet is cheap, fast and easy. Metallic objects may be taken out with a small excision and therefore the scar tissue is small.[10,11]

In this case presentation, the foreign object was reached easily with the help of a magnet, and the foreign object was taken out with a smaller incision, less exposure and less anesthetics. Incision by using a magnet is a cost-effective and efficient method. In this case presentation, we have told about a patient working in the metal department in the ceramic factory who held a powerful magnet close to the area which was painful in his hand consciously, and noticed that his tissue came closer to the magnet. He doubted a metal foreign object in his hand, and brought the magnet with him to the orthopedics clinic. The X-ray images showed the foreign object in his hand, and the foreign object was taken out with the help of the magnet. Although taking out foreign objects from soft tissue is like looking for a needle in the haystack for us, orthopedic surgeons, excision of foreign objects in soft tissue with the help of a magnet may be a good preference if they are not very deeply located. Moreover, it is observed in this case presentation, how a conscious patient makes the work of a doctor easier. Although there are case presentations in the literature about incision of the foreign objects from soft tissue with the help of a magnet, no cases were observed in which the patient almost diagnosed himself with a magnet in a conscious manner.

Conflicts of interest

The authors of this study declare no conflicts of interest and received no monetary benefits, or otherwise for this manuscript. This research is original and all authors have reviewed the final manuscript.

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Ethical approval

Ethics approval was not required due to explicit patient consent.

Consent

Patient's informed, written consent for use of de-identified data and photos has been obtained.

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