

Pulmonary Embolism Due to Metal Coil: Case Report

Metal Halkaya Bağlı Akciğer Embolisi

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ABSTRACT Radiological studies may sometimes reveal unexpected findings. A 42-year-old male patient was referred to our center because of metallic opacities observed on the chest X-ray. Physical examination was unremarkable except for macular lesions on both lower extremities. A detailed medical history revealed that the patient had a varicocele in the right testis which was obliterated with coil embolization 12 years ago. The metallic opacities observed on the chest X-ray were considered to result from the migration of the coils from testis to the lungs. Coil embolization is an effective and safe procedure in the treatment of varicocele. However, as presented in the case, the procedure may cause complications in a certain subgroup of patients. Migration of coils from the varicose testicular veins to the pulmonary vessels may be clinically insignificant; however, when found incidentally, it may pose a diagnostic problem that needs to be solved by the clinician.

Key Words: Embolization, therapeutic; varicocele; lung; complications

ÖZET Görüntüleme tetkiklerinde bazen hiç beklenmeyen bulgular saptanabilir. Kırk iki yaşında bir erkek hasta akciğer grafisinde görülen metal dansiteler nedeniyle merkezimize sevk edildi. Her iki alt ekstremitede maküler lezyonlar dışında fizik muayenesinde özellik yoktu. Ayrıntılı tıbbi öykü hastanın sağ testisinde 12 yıl önce halka embolizasyonu ile venografik olarak tıkama yapılmış bir varikoseli olduğunu açığa çıkardı. Akciğer grafisindeki bu metal dansitelerin varikoseldeki halkaların akciğerlere göç etmesinden kaynaklandığından şüphe edildi. Halka embolizasyonu, varikosel tedavisinde etkili ve güvenilir bir yöntemdir, ancak sunulan hastada olduğu gibi komplikasyonlara yol açabilir. Genişlemiş testiküler venlerden bu halkaların pulmoner damarlara göç etmesi klinik olarak önemsiz olabilir ancak, tesadüfen saptandığında, klinisyen tarafından çözülmesi güç bir tanısal problem yaratabilir.

Anahtar Kelimeler: Embolizasyon, tedavi amaçlı; varikosel; akciğer; komplikasyonlar

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Coil embolization has been reported as a safe and effective treatment modality for varicoceles of the testis.¹ The major advantage of this approach is its relatively low rate of complications.² Here, we present a rare complication of this approach in a male patient who presented with incidental metal opacities observed on a chest radiogram.

CASE REPORT

A 42-year-old male patient was referred to the Pulmonology Clinic because of metal opacities detected incidentally on the posteroanterior chest X-ray. Past history revealed that he had suffered from diffuse pruritic lesions

which were considered to be psychiatric in origin and he had been treated for an affective disorder. The patient denied aspirating any foreign material. Symptoms such as cough, sputum, hemoptysis, dyspnea, chest pain or fever were absent. On physical examination, there were macular lesions of 2-3 cm on the lower extremities. Detailed medical history of the patient revealed that he had a varicocele in his right testis which was obliterated by endovascular coil embolization 12 years ago. He reported occasional scrotal pain thereafter.

Posteroanterior and right lateral chest X-rays showed three metallic opacities, one in the right upper zone and two in the right lower zone (Figure 1a and 1b). These metallic opacities were suspected to be the coils coming from varicocele embolization that was performed in the past. As patient had no relevant complaints and the coils were located in the small peripheral vessels causing a small area of presumed necrosis, it was decided not to remove the coils.

Abdominal X-ray did not reveal any other coils that might have been retained in the large vessels of the abdomen. Scrotal Doppler ultraso-

nography showed a residual varicose vein of 2.6 mm in diameter around the right testis; however, no evidence for coils was present. The patient neither reported a significant complaint nor a fertility concerns. Hence, a repeat coil embolization was not considered.

DISCUSSION

Prompt treatment of testicular varicocele is recommended in patients with testicular pain and swelling, or in order to decrease the risk of infertility.¹ Successful treatment of a testicular varicocele can be accomplished via operative ligation of the varicocele or radiological embolization of the testicular vein. Varicocele embolization with coil or balloon is an effective and safe therapeutic approach.^{2,3} However, rare complications such as the migration of the coil, discomfort and inguinal pain may occur as well as the recurrence of the varicocele.⁴ Migration of vascular coils to distant organs may have important clinical consequences theoretically, such as infection, arterial embolization in a patient with right-to-left shunt or worsening of pulmonary functions in a patient with underlying lung disease.



A



B

FIGURE 1A, B: The posteroanterior and right lateral chest X-rays showed three metal opacities, one in the right upper and two in the right lower zone.

se.⁵ However, neither balloon nor coil embolization has been reported to cause serious clinical events.^{2,3,5}

Although it is known that coils used during embolization have a risk of migration, there is only one case of varicocele embolization complicated by pulmonary migration of coils.⁶ We suppose that our case is the second case of pulmonary migration of the varicocele coil after the procedure. Interestingly, both of these cases were asymptomatic.

We decided to follow the patient conservatively. As there was no sign of venous obstruction in the chest-X ray (no parenchymal or pleural abnormality), pulmonary angiography was not performed. The coils that obliterate the pulmonary vessels can be removed using an intravascular forceps or with surgery in symptomatic patients or can

be left within the vessel if the patient is asymptomatic or the coils are located distally. As the patient had no clinically significant symptoms and the coils were too small to cause any obliteration, we did not plan intravascular removal or anticoagulant therapy.

This is a demonstrative case that highlights the importance of a detailed patient history while searching for the cause of an incidental finding on a chest X-ray. Additionally, it should be kept in mind that coils used for embolization may migrate some time after the procedure and patients treated with this modality should be evaluated regarding this possibility. Migration of coils from the varicocele testicular veins to the pulmonary vessels may be clinically insignificant, however, when found incidentally, may pose a diagnostic problem to be solved by the clinician.

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