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PULMONARY EMBOLISM PRESENTING AS ABDOMINAL PAIN: AN ATYPICAL COMPLICATION AFTER RHINOPLASTY

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ABSTRACT

Embolism of the pulmonary artery or one of its branches is the most striking and characteristic appearance of thromboembolic disease. Surgery is defined as a major transient risk factor of VTE, and almost 25% of all cases can be attributed to a recent surgery. The risk of postoperative PE is highest during the first 5 weeks after surgery and is related to the type of surgery. Here we report the case of a 44-year-old man who presented with right upper quadrant abdominal pain that has been going on for several hours with axillary temperature up to 38 °C. The pain intensifies when inhaling. There were no other symptoms. Due to the information about the recent operations and the change on the tangential scan of the right lung, the patient underwent a coagulogram, which revealed elevated D dimer and fibrinogen. The patient referrers to a pulmonologist who suggests a CT angiography which revealed in one segmental branch, and its two associated subsegmental branches a. pulmonalis dextral for the posterobasal segment of the lower lobe of the lung parenchyma on the right, visible minor hypodense changes corresponding to smaller thrombotic masses. The patient was admitted to the Clinic of pulmonology JZU UKC Tuzla where he was prescribed low molecular weight heparin and antibiotic therapy. After discharge, the patient continued to take warfarin orally for anticoagulant treatment. Given that the patient could not achieve the target INR values (INR 2-3), the therapy was changed to new anticoagulant drugs (NOAC-Apixaban).

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INTRODUCTION

Embolism of the pulmonary artery or one of its branches is the most striking and characteristic appearance of thromboembolic disease. The most common cause of pulmonary embolism is phlebothrombosis and thrombophlebitis of veins of the lower extremities, phlebothrombosis of pelvic and abdominal veins usually after surgery, there are also other, rarer types of embolism for example tissue cell, fat, oil, gas embolism and the like.[1] Factors dependent on the patient are age over 40 years, obesity, immobilization, deep vein thrombosis or pulmonary embolism in history, thrombophilia, resistance to activated protein C and others.[2,3,4] Surgery is defined as a major transient risk factor of VTE, and almost 25% of all cases can be attributed to a recent surgery. [5]. Current evidence-based guidelines worldwide recommend active strategies to prevent VTE in at risk patients undergoing surgery. The risk of postoperative PE is highest during the first 5 weeks after surgery and is related to the type of surgery. [6,7] Current international guidelines recommend prophylactic anticoagulation treatment for up to 5 weeks postsurgery.[8] Despite this, thromboembolic complications after rhinoplasty are rare, even in patients who did not receive prophylaxis, thromboembolic complications rarely occurred. [9,10] Here we report the case of a 44-year-old man who presented with right upper quadrant abdominal pain and was later found to have PE.

CASE REPORT

A 44-year old man comes for an examination due to right upper quadrant abdominal pain that has been going on for several hours with axillary temperature up to 38 °C. The pain intensifies when inhaling. There were no other symptoms. His body mass index was 32.0kg/m2 . Based on the history, acute cholecystitis was suspected. Auscultation of the lungs revealed weakened breathing and right basal crepitations. He had no significant medical history, apart from the surgery

for deviated nasal septum (septorhinoplastica) 4 weeks ago. Patient takes okskarbazepin for epilepsy. The patient was reffered for laboratory test in which elevated values of inflammatory parameters were recorded, elevated C- reactive protein (42,1 mg/L; normal range, 0,0-3,3 mg/L) and elevated leukocytes (10,58 x10^9; normal range, 3,40-9,70x10^9/L). The patient marked his pain as number 9 on the VAS scale. Abdominal ultrasonography was unremarkable which ruled put acute cholecystitis as the most likely diagnosis. The anteroposterior(AP) X ray was normal(Picture 1.a), without certain signs of bone trauma, pleural effusion and pneumothorax. A tangential scan of the right lung reveales a small shadow in summation with TH VI rib, of open etiology(Picture 1.b). Due to the information about the recent operations and the change on the tangential scan of the right lung, the patient underwent a coagulogram, which revealed elevated D dimer values of 0,6 mg/L and elevated fibrinogen values of 8,6 g/L. Homans's sign was negative. ECG in sinus rhythm with a frequency of about 75 per minute, without pathological changes. Figure 1. a) AP projection b) tangential image of the right lung wing The patient referres to a pulmonologist who suggests a CT angiography to rule out pulmonary embolism. Computed tomography pulmonary angiography (CTPA) revealed in one segmental branch, and its two assosciated subsegmental branches a. pulmonalis dextra for the posterobasal segment of the lower lobe of the lung parenchyma on the right, visible minor hypodense changes corresponding to smaller thrombotic masses. On the posterobasal tight in the lung parenchyma, a gentle condensation of the lung parenchyma is visible, according to the type of minor pneumonic infiltration. A small condensation of the lung parenchyma is visible laterobasally on the right, which most likely corresponds to an infarction. (Picture 2.) Picture 2. The CTPA image in the lung window shows an infiltrate in the right lung base, which indicates a peripherally located infarcted lung. Arrowheads show embolism of the subsegmental branches of the a. pulmonalis dextra for the posterobasal segment of the lower lobe of the lung parenchyma on the right and peripherally located infarcted lung. The patient was admitted to the Clinic of pulmonology JZU UKC Tuzla where he was prescribed low molecular weight heparin and antibiotic therapy. After discharge, the patient continued to take warfarin orally for anticoagulant treatment. Given that the patient could not achieve the target INR values (INR 2-3), the therapy was changed to new anticoagulant drugs (NOAC-Apixaban).

DISCUSSION

This case illustrates the necessity of having a high index of suspicion for pulmonary embolism even in patients presenting with nonclassical symptoms. In the case of abdominal pain, we usually think first of all about an abdominal disease such as acute cholecystitis, but very rarely a pulmonary embolism is suspected. In this case report, the patient came to the primary health care for pain in the upper right quadrant of the abdomen without typical signs of pulmonary embolism such as shortness of breath and dyspnea. Through a detailed physical examination and ultrasound diagnostics, abdominal diseases were ruled out, and lung disease was suspected. This case report demonstrates the importance of a detailed physical examination and patient history. The information about the patient's operation 4 weeks ago put pulmonary embolism at the top of the differential diagnoses, even though it was septorhinoplasty, after which pulmonary embolism develops very rarely as a complication. The study conducted in 2023 utilized the Tracking Operations and Outcomes for Plastic Surgeons (TOPS) database to characterize rates and predictors of surgical complications and unplanned healthcare utilization across common aesthetic surgery procedures. Cases were collected in the period from 2008 to 2019 for patients who had one of the five most common aesthetic surgical procedures, such as breast augmentation, liposuction, rhinoplasty, blepharoplasty, and abdominoplasty. The collected data show that in that period 8,387 underwent rhinoplasty. Pulmonary embolism and deep vein thrombosis were registered as complications in 2 patients (0.02%). [11] Oakland et al. reviewed the VTE risk in patients who underwent rhinoplasty between 2007 and 2016. Their study showed an extremely low risk of developing VTE in rhinoplasty patients and that history of previous VTE, presence of PICC/central line, advancing age, IBD, and intraoperative rib graft harvest were most strongly associated with VTE in this population cohort.[12,13,14]

CONSLUSION

Here we describe an interesting case of PE that could easily have been missed without a high index of suspicion. Missing such a diagnosis can lead to devastating consequences. Various non-specific complaints, such as abdominal pain, can mask the underlying disease. Available diagnostics were non-specific and insignificant. However, maintaining a systematic approach to a detailed history, physical status, and focused diagnosis for PE can lead to a life-saving diagnosis.

REFERENCES:

1. Đorđević BS. Plućne bolesti. Medicinska knjiga: Beograd- Zagreb, 1982.
2. Goldhaber SZ, Visani L, De Rosa M. Acute pulmonary thromboembolism. Clinical outcomes in the International Cooperative Pulmonary Registry (ICOPER) Lancet. 1999;353(9162):1386-9. doi: 10.1016/s0140-6736(98)07534-5.
3. Stein PD, Terrin ML, Hales CA, et al. Clinical, roendgenographic and electrocardiographic findings in patients with acute pulmonary embolism and no pre-existing cardiac or pulmonary disease. Chest. 1991;100(3):598–603. doi: 10.1378/chest.100.3.598.

4. Le Gal, Teztuz A, Righini M, et al. Reproduction of chest pain by palpation: diagnostic accuracy in suspected pulmonary embolism. BMJ. 2005;330(7489):452–455. doi: 10.1136/bmj.38331.602384.8F.
5. Heit JA, O'Fallon WM, Petterson TM, et al. Relative impact of risk factors for deep vein thrombosis and pulmonary embolism: a population-based study. Arch Intern Med. 2002;162(11):1245-1248. doi: 10.1001/archinte.162.11.1245.
6. Clagett GP, Anderson FA Jr, Levine MN, et al. Prevention of venous thromboembolism. Chest. 1992;102(4):391S-407S. doi: 10.1378/chest.102.4_supplement.391s.
7. Guyatt GH, Akl EA, Crowther M, Gutterman DD, et al. Executive summary: Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest. 2012;141(2):7-47. doi: 10.1378/chest.1412S3
8. Samama C-M, Albaladejo P, Laversin S, et al. Prevention of venous thromboembolism in surgery and obstetrics. Ann Fr Anesth Reanim. 2005;24(8):853-861. doi: 10.1016/j.annfar.2005.06.011.
9. Moubayed SP, Akdagli S, Incidence of venous thromboembolism in rhinoplasty. Aesthet Surg J. 2017;37(3):34-35. doi: 10.1093/asj/sjx126.
10. Winocour J , Gupta V, Kaoutzanis C, et al. Venous thromboembolism in the cosmetic patient: analysis of 129,007 patients. Aesthet Surg J. 2017;37(3):337-349. doi: 10.1093/asj/sjw173.
11. Sergesketter AR, Shammas RL, Geng Y, et al. Tracking Complications and Unplanned Healthcare Utilization in Aesthetic Surgery: An Analysis of 214,504 Patients Using the TOPS Database. Plast Reconstr Surg. 2023;151(6):1169–78. doi: 10.1097/PRS.0000000000010148.
12. Okland TS, Wadhwa H, Patel PN, et al. Risk of Venous Thromboembolism Following Rhinoplasty. Aesthetic surgery journal. 2021;41(7):728–34. doi: 10.1093/asj/sjaa427.
13. Rehman H, John E, Parikh P. Pulmonary Embolism Presenting as Abdominal Pain: An Atypical Presentation of a Common Diagnosis. Case Rep Emerg Med. 2016; 2016: 7832895. doi: 10.1155/2016/7832895.
14. Han Y, Gong Y. Pulmonary embolism with abdominal pain as the chief complaint. Medicine. 2019;98(44):e17791. doi: 10.1097 MD.0000000000017791.

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