A 60-year-old woman is readmitted to the hospital with mild-to-moderate dyspnea 15 days after surgical cholecystectomy. Physical examination does not reveal significant pathological findings. Anticoagulatory treatment (PE) and deep vein thrombosis (DVT) are confirmed by computed tomography (CT) and ultrasonography, respectively. The patient strongly desires to be discharged immediately and receive treatment at home. Is this acceptable?

Improves the proposition 1. For low-risk patients with PE, some clinicians order an echocardiogram and a lower extremity venous compression ultrasound before hospital discharge in an attempt to improve risk stratification, but the indications for their use are not further studied 3. This recommendation for outpatient treatment for normotensive patients with acute symptomatic PE necessitates further development. 4 The authors decided to conduct clinical trials that assess various treatment strategies.

Background

The patient had no allergies. She was a teacher. She smoked half a pack of cigarettes daily for many years and drank a bottle of beer occasionally on weekends. There was no history of exposure to toxic industrial materials, cardiac murmur or heart disease, deep venous thrombosis, pulmonary disease, or obesity. Her father had died of heart disease, and there was a family history of diabetes mellitus.

Investigations

Fifteen days after surgery, a cholecystectomy was performed for treatment of gallstones. The immediate postoperative course was uncomplicated, and she was discharged 2 days after surgery without thromboprophylaxis. The patient was very active after surgery, and was abruptly admitted to the emergency department with light-headedness and collapse. The patient did not lose consciousness or sphygmomanometer control, but she immediately felt profoundly dyspneic, with palpitating chest.

On physical examination the patient appeared obese (weight 86 Kg, height 162 cm). The temperature was 37.3°C, the pulse was 97, and the respiratory rate was 32. The blood pressure was 130/80 mm Hg. On physical examination, no rash or lymphadenopathy was found. There was local dullness at the left lung base, with diminished breath sounds and inspiratory rales, no egophony or wheezing was heard. The heart sounds were normal. Abdominal examination revealed tenderness of both lower quadrants, without guarding; the liver and spleen were not felt. There was no peripheral edema or digital clubbing. Neurologic examination showed no abnormalities.

The hemoglobin was 10.5 g/dl, white-cell count was 6000 per cubic millimeter, with 73 percent neutrophils, 18 percent lymphocytes, 6 percent monocytes, and 3 percent eosinophils. The platelet count was 487,000 per cubic millimeter. The basic metabolic panel was normal, with both serum electrolytes, creatinine, and glucose levels normal. The total protein level was 6.0 g per deciliter (albumin, 2.5 g per deciliter, globulin, 3.5 g per deciliter), and the alkaline phosphatase level was 234 U/liter. The levels of glucose, urea nitrogen, creatinine, cardiac troponin I, brain natriuretic peptide, electrolytes, asparate aminotransferase, and alanine transaminase were normal. An electrocardiographic examination showed no abnormalities.

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Discussion

The case under discussion raises some points to consider when evaluating and treating PE: risk stratification; home treatment; and the efficacy and safety of low-molecular-weight heparins for long-term treatment of VTE.

Treatment and follow-up

Bepiparin was administered at a dose of 115 IU/Kg/day. and supplemental oxygen were administered. Bepiparin was injected in the thighs. The patient's hospital course was uncomplicated. The patient was discharged on the 3rd day after surgery, without taking bepiparin (a dose of 3,500 IU/day from day 10 after diagnosis). She was recommended to use 30-40 mmHg graduated elastic compression stockings daily for at least two years. Lifestyle modification and medical therapy are critical to address cardiovascular risk factors and reduce her lifetime risk of myocardial infarction, stroke, and recurrent venous thromboembolism (VTE), and a heart-healthy diet, regular exercise, tobacco cessation, and weight control are recommended.

The recent multicenter trial (Outpatient Treatment of Pulmonary Embolism [OTPE]) showed that outpatient treatment with low-molecular-weight heparin (LMWH) was not inferior to inpatient treatment in terms of effectiveness and safety 1. However, immediate discharge and out-of-hospital anticoagulation is not (yet) a widely accepted treatment option for involvement of the pleura. Only later, when a central thrombus begins to lyse, do emboli shower the peripheral vessels, with development of pleuritic chest pain. The review of systems revealed no obvious risk factors for PE, lower limb ultrasound testing demonstrated right DVT.

Differential diagnosis

The hematocrit was 31.6 percent. The white-cell count was 6500 per cubic millimeter, with 73 percent neutrophils, 18 percent lymphocytes, 6 percent monocytes, and 3 percent eosinophils. The platelet count was 487,000 per cubic millimeter. The basic metabolic panel was normal, with both serum electrolytes, creatinine, and glucose levels normal. The total protein level was 6.0 g per deciliter (albumin, 2.5 g per deciliter, globulin, 3.5 g per deciliter), and the alkaline phosphatase level was 234 U/liter. The levels of glucose, urea nitrogen, creatinine, cardiac troponin I, brain natriuretic peptide, electrolytes, asparate aminotransferase, and alanine transaminase were normal. An electrocardiographic examination showed no abnormalities.

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References