CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.2537613

Available online at: http://www.iajps.com *A Case Report*

PULMONARY EMBOLISM FOLLOWING DEEP VEIN THROMBOSIS AS A SERIOUS ADVERSE EFFECT OF PROLONGED USE OF ORAL CONTRACEPTIVE PILLS IN 50 YEARS OLD WOMAN: CASE REPORT IN KINGDOM OF SAUDI ARABIA

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Abstract:

Introduction: *Pulmonary embolism (PE) is a common and sometimes fatal disease. It is due to obstruction of a pulmonary artery or one of its branches by material (e.g., thrombus, tumor, air, or fat) that originated elsewhere in the body.*

Objective: *To review and evaluate the potentially serious adverse effects of prolonged use of combined oral contraceptive pills in a 50-year-old woman.*

Case Presentation: *A 50-year-old Saudi female admitted to our hospital,(King Fahad hospital Alhfuof) with an eight-day history of right leg swelling associated with pain, she is not known diabetic or hypertensive. She is para8 with no history of abortion and she was using oral contraceptive pills for the past fourteen years. Diagnosis of deep Vein thrombosis was made by color duplex ultrasonography. She was started on enoxaparin sodium 70 mg twice per day and warfarin 5 mg daily. She improved and the INR was in the therapeutic range in Day 5 of admission it was 2.2; but she developed dyspnoea, chest pain and had tachycardia. CT pulmonary angiography and showed an acute pulmonary embolism in the right pulmonary artery. The patient was transferred to the intensive care unit and managed with high flow oxygen and low molecular weight heparin was continued and the warfarin dose was increased; she became well without significant sequelae and was discharged from hospital in good condition.*

Conclusion: *This case illustrates the development of a life-threatening condition such as pulmonary embolism as a result of prolonged use of combined oral contraceptive pills in a 5o-year-old woman.*

Keywords: *Deep Vein thrombosis; pulmonary embolism; oral contraceptive pills.*

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Please cite this article in press Mohammed Sami Almulaify et al., ***Pulmonary Embolism Following Deep Vein Thrombosis as a Serious Adverse Effect of Prolonged Use of Oral Contraceptive Pills in 50 Years Old Woman: Case Report in Kingdom of Saudi Arabia.,*** *Indo Am. J. P. Sci, 2019; 06(01).*

INTRODUCTION:

Acute pulmonary embolism (PE) is a life-threatening condition and is typically diagnosed by a combination of symptoms, clinical signs, and imaging. Risk factors for venous thromboembolism (VTE); is divided into, hereditary and acquired. The most frequent hereditary causes are the factor V leaden and prothrombin gene mutations, around 50 to 60 percent of cases. The major acquired risk factors for VTE include prior thromboembolism, recent major surgery, trauma, immobilization, antiphospho-lipid antibodies, malignancy, pregnancy, and oral contraceptive pills.The incidence of venous thromboembolism was significantly lower in participants receiving an estradiol transdermal than participants receiving oral oestrogen only hormone therapy. (1). Treatment choice is informed by the risk of sudden death, with high-risk patients recommended receiving thrombolytic therapy or thrombectomy. Patients with less severe presentation can be treated with anticoagulant therapy with either low-molecular-weight heparin or un-fractionated heparin transitioning to oral vitamin K antagonists (VKAs) e.g warfarin, or non VKAs like rivaroxaban for three months or longer depending on individual risk factors. (2).

Case Presentation:

This is a case of a 50-year-old Saudi female admitted to our hospital, with an eight days history of right leg swelling associated with pain, she is not known diabetic or hypertensive. She is para8; no history of abortion and she reported that; she was using oral contraceptive pills for the past fourteen years. The rest of the patient's medical history was unremarkable. In the emergency room, the patient was looking well, the blood pressure was (110/90), pulse was (90/ min. regular), and her weight was 70 kg. She was not pale or jaundiced. No cervical lymphadenopathy was detected. Examination of the cardiopulmonary systems and the abdomen was normal. Musculoskeletal and skin examination, showed right leg swelling with redness and tenderness. Restriction of movement in the lower limbs due to pain, Upper limbs examination was unremarkable. Investigations were within normal range for Complete blood count, liver function, renal function test, and serum electrolytes. INR was 1.4. Color duplex ultrasonography was requested for the venous system of the right lower limb and it showed subacute extensive right lower leg deep venous thromboses with superficial thrombophlebitis. She was started on enoxaparin sodium 70 mg twice per day and warfarin 5 mg daily. She improved and the INR was in the therapeutic range in Day 5 of admission it was 2.2, but she started to have dyspnoea and chest pain and the pulse was 110/min and the oxygen saturation was 92% on room air. The ECG showing signs of sinus tachycardia right axis deviation with T- wave inversion in lead iii. (fig....) And the CT pulmonary angiography was done and axial, coronal and sagittal views were obtained. There was a filling defect noted at the right lower pulmonary artery in keeping with an acute pulmonary embolism as well as filling defect noted at the bifurcation of the left superior and lingular pulmonary artery in keeping with an acute pulmonary embolism. (fig...).There are bilateral basilar ground-glass opacities with associated smooth in be related to early pulmonary edema. And the impression was acute pulmonary embolism. And the patient was transferred to ICU. She was put on oxygen and low molecular weight heparin was resumed in addition to warfarin and echocar diography was done for her. Her symptoms im proved and she was discharged from ICU in a good condition. Follow up INR was in the therapeutic range (1-2)..

DISCUSSION:

Oral contraceptives are a reliable and convenient method for contraception, yet physicians are reluctant to use them in females over 35 due to the concern about increased risk cerebrovascular dis- ease and cancer despite evidence to the contrary. The risk of thromboembolism is related to the es- trogen dose and more in the smoker as shown by well-designed studies. Current preparations of oral contraceptives carry less risk of cardiovascular dis- ease or stroke in women without other risk factors. On the other hand, oral contraceptives are shown to be protective against endometrial and ovarian cancer; with minimal increase in breast cancer. So; oral contraceptive pills could be safe in women over 35; particularly if there are no other risk fac- tors for thromboembolism. The available data are available from studies done on women in all age group; there is no definitive study carried in 35-50 year age group demo demonstrating the relation- ship between oral contraceptive use and throm- boembolism; cerebrovascular disease and cancers of the breast and genital organs. However; most of the studies which were conducted in the United Kingdom and the United States; showed that older women are more likely to be at risk of thromboem- bolism; myocardial infarction and stroke, especially if there are other risk factors for cardiovascular disease. (3).Au case-control study carried out in Eng- land and Wales of pulmonary or venous throm- boembolism in women age group 16-39 years who died from pulmonary or venous thromboembolism after using oral contraceptive; found that there

was a significantly higher frequency of recent operation or accidents within 3 months(11%) among those who died than the control group and 7% of them had a history of previous vein thrombosis.(4). Oral contraceptive pills cause to increase the risk of thrombosis due to hypercoagulability state re- lated to estrogen (both venous and arterial throm- bosis) and progestogen (only arterial); where both factor VIIc and factor XIIc are increased resulting in activation of factor X and formation of thrombin leading to thrombosis. (5).Ther risk of VTE among women using OCPs is 30-fold increase by the presence of a mutation in factor V Leiden. Obesity and varicose veins are weak risk factors. (6). Our pa tient in this case report was not an obese and non smoker and had no coagulation abnormalities yet she developed VTE; deep vein thrombosis followed by pulmonary embolism despite therapeutic anticoagulation with the international normalized ratio(INR) between 2-3. In a study carried out in the emergency department in Kaiser Permanente (KP), Northen California, in patients who had PE despite therapeutic anticoagulation, they found that these patients had changed in the dose of the anticoagulant drug or had sub-therapeutic INR.(7). Appreciation In our patient, this was not the cause, but it might be related to the failure of medication although she responded well after resuming low-molecular- weight heparin in the intensive care.

CONCLUSION:

Women should use oral contraceptive pills with low estrogen levels under the supervision of physicians. Women older than 35 with risk factors for cardiovascular disease prehistory of thromboembolism related to hormones or those who are diabetic; hypertensive or smokers should avoid oral contraceptives. Studies to determine whether the benefits of the use of oral contraceptives outweigh the risks in the age group 35-50 are recommended.Studies to elaborate on the development of PE despite therapeutic anticoagulant are recommended.

CONFLICT OF INTEREST

The authors declared that they do not have anything to disclose regarding funding or conflict of interest with respect to this manuscript for publication.

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