

## Marvelon Induced Deep Venous Thrombosis: Case Report

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### Abstract

We evaluate a case report of Marvelon caused lower extremity deep venous thrombosis in order to provide reference for safety use of oral contraceptives.

**Keywords:** Marvelon; Oral contraceptive; Venous thrombosis; Desogestrel; Hypermenorrhea; Trauma; Fraxiparine

### Introduction

Marvelon (desogestrel ethinylestradiol tablets) is one of the third-generation oral contraceptives and has been widely used on the market in China. The main components of Marvelon are desogestrel 0.15 mg/tablet and ethinylestradiol 0.03 mg/tablet. It has good effect of contraception, but the side effects induced by Marvelon have also been concerned world widely, especially the risk of venous thrombosis [1]. We report and analyse a new case of lower extremity deep venous thrombosis which was caused by Marvelon because of the treatment of uterine hemorrhage in order to provide reference for safety use of oral contraceptives.

### Case Report

A 42-year-old woman, presented at the emergency department with pain and swelling in the left lower extremity. 23 days before, she started to take Marvelon pills because of hypermenorrhea. The dosage was suggested for 1 tablet each time, three times a day for the first three days, then reduced to twice a day for the second three days and reduced to once a day for 12 days. When taken pills for 12 days, she felt pain in the left lower extremity and aggravated when walking. 5 days later, the affected lower limb became swelling, so she stopped taking Marvelon and got a thrombolysis treatment by urokinase and salvia in a hospital. 4 days later, she was transferred to a higher-level hospital.

Admission examination found a significant swelling of the left lower extremity and a 4 cm diameter ecchymosis with mild tenderness. By measurement, the left thigh perimeter was 8 cm longer and the left shin perimeter was 5 cm longer than the healthy side respectively. Other physical examinations about artery pulsesuperficial vein varicose joint motion and gastrocnemius muscle tenderness were all negative. Color Doppler ultrasound showed deep venous thrombosis and iliac vein thrombosis of left lower extremity, the venous blood flow of right lower extremity was normal. Look back to her disease history, there were no thrombotic disease, heart disease, diabetes, migraine, depression, smoke and wine hobby. Her family

history was negative for hereditary and congenital disease. When using Marvelon, there was no other medication, no long-term bed rest, no history of trauma surgery. The tests of blood routine, blood type, coagulation function and ECG were taken in emergency. The results were all normal except low haemoglobin.

The patient had been told to have an absolute bedrest and raise the affected limb. Then she was treated with fraxiparine, batroxobin etc. for anticoagulation, thrombolysis and antiplatelet immediately. She was also administrated antibiotics to prevent infection.

After 5 days of therapy, the left lower limb swelling improved as the perimeter of thigh was 6 cm longer and the perimeter of shin was 3 cm longer than that of the healthy side. The therapy was continued until the patient was discharged from hospital 12 days later. Then she was taken a hysteroscopy for seeking the abnormal bleeding reason and confirmed endometrial polyps finally.

### Discussion

Oral contraceptives increase the risk of venous thrombosis, with the extent depending on the dose of ethinylestradiol and the type of progestin [2]. It is reported that the combined hormonal contraceptives with desogestrel confer a six-fold increased risk of venous thrombosis as compared with nonusers [3]. A dose related effect of ethinylestradiol was observed for desogestrel with higher doses being associated with higher thrombosis risk [4]. Although the estrogen (ethinylestradiol) contented in each tablet is very low, but it still leads to resistance to activated protein C(APC) which may serve as marker for the risk of venous thrombosis [5].

### Conclusion

Although the incidence of venous thrombosis serious adverse reactions caused by Marvelon is rare, but all women who use oral combined hormonal contraceptives are at risk of venous thrombosis and should be informed of this potentially serious adverse effect. This report will offer a reference to the safety use of oral contraceptives.

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