

# Arbitrarily Herbal Treatments to Weight Gain as the Potential Cause of Pulmonary Embolism and Renal damage: A case report

Masoomeh Abdi , Kiomars Karamizadeh <sup>2</sup>

<sup>1\*</sup> Aligoudarz School of Nursing, Lorestan University of Medical Sciences, Khorramabad, Iran

<sup>2</sup> Lorestan University of Medical Sciences, Khorramabad, Iran

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## ABSTRACT

*Pulmonary embolism is caused by the formation of clots in the pulmonary arteries. This study is a case report to introduce a young woman who suffered a pulmonary embolism and kidney damage after consuming Fershteh fattening capsules. We report a 32-year-old woman who is referred to the emergency ward and suffers from weakness, lethargy, diarrhea, and vomiting. Due to the increase in renal and potassium markers, the patient is dialyzed urgently but suffers from shortness of breath, tachypnea, and tachycardia. A nuclear lung scan was performed after cardiac echocardiography and high pulmonary artery pressure, and pulmonary embolism was confirmed. After eight days, thrombosis was treated with intravenous heparin and discharged with oral warfarin. Arbitrary consumption of drugs without permission and without consulting a doctor can cause adverse effects on people.*

**Keywords:** Pulmonary Embolism, Weight Gain; Renal Damage; Arbitrarily Treatment

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## Introduction

Acute Pulmonary Embolism (PE) is a common life-threatening disease [1]. This disorder is the most common cause of vascular death following stroke and myocardial infarction [2]. The death rate is reported to be 25% in untreated cases of PE [3]; death is due to right ventricular failure followed by increased overload [2]. In addition, clot formation in pulmonary arteries diminishes lung tissue perfusion and leads to pulmonary ventilation problems and hypoxia [3]. PE risk factors are deep vein thrombosis, inactivity, fracture, surgery, stroke, travel, malignancy, hypercoagulability, and unknown factors [4]. This paper reviews a case that has developed PE following the use of Fershteh weight-gain capsules. This study aims to warn against using feigned and unlicensed medicines with herbal and natural labels.

## Case presentation:

The patient was a 32-year-old woman admitted to the emergency ward at 10:00 AM with weakness and lethargy due to bloody diarrhea and severe vomiting. She has no history of cardiovascular, renal, pulmonary disease, or diabetes. She started taking Fershteh weight-gain capsules 22 days ago for weight gain and increasing appetite (four tablets daily: 2 tablets after lunch and two after dinner). Ingredients listed on the drug label include Ginseng, *Medicago sativa*, and *Ziziphora capital* extract, which the Ministry of Health does not license in IR Iran. After taking 90 tablets, she suffered from diarrhea and vomiting and did not respond to outpatient treatment. The patient obtained medicine from an herbalist arbitrarily without consulting a doctor. The medicine is in the form of white

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\* Corresponding author: Masoomeh Abdi

Aligoudarz School of Nursing, Lorestan University of Medical Sciences, Khorramabad, Iran E-mail: [Masoomeh.abdi21@yahoo.com](mailto:Masoomeh.abdi21@yahoo.com)

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capsules sold in plastic cans with the label of Fereshteh weight-gain capsules.

The vital signs upon arrival were as follows:

BP = 53 / 30mmHg, HR = 126bpm, RR = 24, T = 36.7C

The patient's SPO2 was 80% at the arrival without oxygen intake. Immediate treatment measures include injection of 1 liter of 0.9% N/S serum, oxygen administration with a mask at a rate of 6 liters per minute, norepinephrine serum, and dopamine serum along with blood pressure check above 80 mmHg were administered. An infectious disease specialist visited the patient and sent for the necessary tests. Table 1 shows the results. Because the patient was previously diagnosed with gastroenteritis and the doctor did not observe any symptoms in favor of sepsis, the request for related tests was not given.

Peripheral blood smear tests, ANA, ANTI DS DNA, ANCA-C, and ANCA-P, were performed, which were in normal ranges, to rule out blood disorders and autoimmune diseases. Given the increase in CR (4.4 mg/dl), BUN (84 mg/dl), and K (5.9 mg/dl), the request for emergency dialysis was made by the

internal medicine specialist for the patient. Shaldon Catheter was placed by the surgeon under local anesthesia in the right femoral area, and the patient dialyzed for two hours just one time. The CR reached 2.5 mg/dl after dialysis. As the patient had tachycardia and dyspnea, tachypnea, and a decrease in spo2 without justification and troponin positivity, a request was made to consult a cardiologist, and cardiac echocardiography was performed for the patient that “Systolic Pulmonary Arterial Pressure” was 35mm Hg. Given the increase in pulmonary artery pressure, a nuclear lung scan was requested, and “Intermediate Pulmonary Embolism” was confirmed. With INR control in the 2-2.5 range, she was treated with 5000 units of Heparin (STAT and every 6 hours) and warfarin tablets 5 mg daily. Fortunately, the patient was discharged in good condition after eight days in the intensive care unit and taking warfarin tablets daily, according to the doctor's opinion. In the follow-up after discharge, the patient used warfarin tablets for one month with the control of PT, PTT, and INR tests and then stopped the drug according to the doctor's order and did not report any special problems.

Table 1: Test results at admission and discharge time

Type of test and normal range	Admission time	Discharge time
BUN (17-43mg/dl)	86mg/dl	<b>41 mg/dl</b>
Cr (0.7-1.4mg/dl)	4.4mg/dl	<b>0.9mg/dl</b>
Na (135-145mg/dl)	128mg/dl	<b>140 mg/dl</b>
K (3-5mg/dl)	5.9mg/dl	<b>3.2mg/dl</b>
BS (100-180g/dl)	91g/dl	<b>98g/dl</b>
HB (14-16g/dl)	12.8g/dl	<b>9.4g/dl</b>
PLT (150000-450000)	150000	<b>184000</b>
CK-MB (0-24IU/dL)	30IU/dL	<b>6IU/dL</b>
PT (12-14 secend)	27 secend	<b>15 secend</b>
INR	3.4	<b>1.3</b>
PTT (30-45 secend)	75secend	<b>30 secend</b>

## Discussion

As there have been no reports of pulmonary complications from Fereshteh weight-gain capsules scientifically so far and as this medicine with the herbal label is widely used among young people to gain weight, this report could be an alarm for consumers and sellers of this medicine. Azarkish et al. reported liver damage and portal vein thrombosis (PVT) in a young patient following the use of Fereshteh weight-gain capsules. They examined all the cases that caused PVT, considering the patient's symptoms, such as moon face, acne, and striae, concluded that medicine can potentially include corticosteroid compounds [5]. The drug is handmade and uses compounds like corticosteroids (dexamethasone), cyproheptadine, oxymetholone, and other oral metabolic steroids [5, 6]. The drug sample was sent to the forensic laboratory for analysis and reported that the main ingredients were Cyproheptadine and Dexamethasone. The medicine may be prepared in unsanitary environments, which can lead to the entry of contamination into the body and threatening life. It is not exactly obvious how this drug causes PE. However, maybe due to the high volume of corticosteroids, high consumption per serving, and long-term use (22 days), the hypothalamic-pituitary-adrenal axis activity is suppressed. Then, water and electrolyte imbalance and dehydration happen. dehydration, lead to a decrease in total plasma volume, an increase in blood viscosity, and finally, clot formation happened. Perhaps it can be stated that given the medicine being handmade and lack of hygiene, the chances of contamination of the gastrointestinal tract and causing diarrhea, vomiting, and dehydration, followed by a decrease in total plasma volume and an increase in blood viscosity and clot formation increase. Moreover, the long-term use of corticosteroids might lead to atrial fibrillation or atrial flutter, and this disorder itself forms clots in the arteries [7]. Regarding the combination of cyproheptadine used in the capsule, it can be said that most studies have introduced cyproheptadine as a nutritional medicine to increase appetite, and the most

common side effect reported in most studies is drowsiness [8, 9]. Other reported side effects include restlessness, nausea, confusion [10], tachycardia, constipation, and diarrhea [11]. In the study of Kim et al., side effects related to the central nervous system and digestive disorders were also reported in addition to drowsiness, it has also been reported that underweight women are at higher risk for central nervous system complications from cyproheptadine [9]. In some studies, the side effects reported are dependent on the drug dose [9, 10], and the side effects are more severe in people who take the drug for the first time [11]. Perhaps it can be said that because the capsule also contains cyproheptadine, our patient was a woman with low weight, and on the other hand, she was using this drug for the first time. Because the severity of the side effects is dose-dependent, the gastrointestinal side effects could be caused by the use of cyproheptadine for the first time and the high dose. The patient examined did not have a history of a specific disease or medication and other causes like blood disorders and autoimmune diseases were ruled out by testing; the problem was likely due to taking this capsule, which has a non-standard dose of corticosteroids, cyproheptadine, and other compounds.

## Conclusion

Nowadays, most studies are aimed at weight loss, and little attention has been paid to weight gain in gaunt people. Studies conducted in traditional medicine and medicinal plants are also laboratory studies. It is suggested that studies be conducted regarding weight gain using safe herbal medications or traditional medicine as a guide for these people. Moreover, it is suggested that thin people consult a nutritionist or traditional medicine specialist to gain weight and avoid arbitrarily taking medicines without the permission of the Ministry of Health.

The report was written after gaining verbal consent from the patient and approval of the

clinical ethics committee of Imam Jafar Sadegh Hospital in Aligoudarz and receiving the ethics code (IR.LUMS.REC.1399.119) from Lorestan University of Medical Sciences in 2020. 9. 8.

### Conflict of Interests

Authors declare that they do not have any conflict interests.

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