

1-1-2019

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### Recommended Citation

M, Rakshith (2019) "Pulmonary Thromboembolism in a case of Alopecia Areata," *Digital Journal of Clinical Medicine*: Vol. 1: Iss. 2, Article 9.

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## **Pulmonary Thromboembolism in a case of Alopecia Areata**

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### **CLINICAL HISTORY:**

48 year old female, presented to emergency department with breathlessness of 10 days duration. Breathlessness was insidious in onset, aggravated on climbing 10 steps, no relieving factors, progressed from grade 1 to grade 3 (NYHA). No history of orthopnoea, chest pain, fever, cough.

Patient informs that she had complaints of calf muscle pain the night before, for which she was prescribed NSAID for symptom relief, the night before she was brought to the emergency department at JSSH.

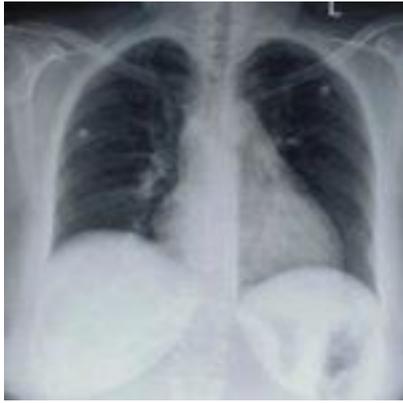
Patient was a known case of Alopecia Areata since 6 months and was on steroid therapy for the same. No history of diabetes / hypertension.

### **EXAMINATION AND INVESTIGATIONS:**

General Examination:

Cushingoid features was noticed on the face.

Tachypnoea and tachycardia noted.



Local examination:

Tenderness and edema of the left calf muscle.

SpO<sub>2</sub>-88% at room air

Systemic examination:

Cardiovascular system: S1,S2 heard, sinus tachycardia, no murmurs, no added sounds.

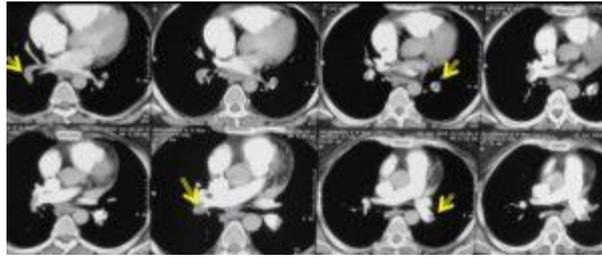
Respiratory system : B/LI NVBS heard , no added sounds.

CNS: Normal.

CBC, RBS, RFT: Normal.



ECG: S1Q3T3 with Sinus Tachycardia



CT Pulmonary angiogram: Acute pulmonary thromboembolism of bilateral pulmonary arteries and segmental branches.



Chest X-ray: Prominent pulmonary bay with Cardiomegaly

Venous Doppler: Deep vein thrombosis involving the left popliteal vein and superficial thrombophlebitis of the left short saphenous vein.

ANA panel: SS-A(Ro-52) positive.

**FINAL DIAGNOSIS:**

Acute pulmonary thromboembolism.

Deep vein thrombosis of left popliteal and superficial thrombophlebitis of short saphenous vein.

Evolving lupus.

Cushingoid habitus secondary to steroids.

**Treatment Given:**

Thrombolytic agent TENECTAPLASE 0.5mg/kg iv bolus(40 mg) over 5-10 seconds

Oral Anti-Coagulant:

Low molecular weight HEPARIN 40mg OD to prevent recurrence of venous thromboembolism.

Referred to Dept of Rheumatology for evolving lupus

Referred to Dept of Dermatology for review of steroid usage for alopecia.

**DISCUSSION:**

Deep vein thrombosis(DVT) is a common entity seen in hypercoagulable states like autoimmune and connective tissue disorders. It is also seen in among patients on long term steroid usage.

The etiopathogenesis of increased risk of VTE in systemic autoimmune diseases is not entirely clear but multiple contributors have been explored, especially in the context of systemic inflammation and disordered thrombogenesis.[1]

Venous thromboembolism (VTE) is major health problem and is sometimes complicated by lethal pulmonary embolism (PE). Disturbances of the coagulation and anticoagulation

systems are important risk factors for VTE.

Alopecia areata is an autoimmune disease, in which the inflammation can cause VTE.[2]

Here SS-A(Ro-52) being positive , suggestive of evolving lupus is a risk factor for VTE.

This patient was on high dose of steroids which could have contributed to VTE. There is evidence that steroids may increase the risk of VTE, notably in patients with Cushing syndrome, in which steroid-mediated changes in hemostatic and fibrinolytic factors are thought to play a role.[3]

Incidence of pulmonary embolism is around 0.5–1 case per 1000. It has been estimated that 70% of proven post mortem cases of pulmonary embolism are not even suspected during the course of treatment.[4]

Patients with Alopecia areata are prone for Venous Thrombo Embolism. Any such patients coming with sudden onset of breathlessness, Pulmonary Thrombo Embolism has to be ruled out

**ACKNOWLEDGEMENTS:** None

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