

Critical leg ischemia related to COVID 19 in a doubly vaccinated patient.

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Introduction

COVID and venous thromboembolism in unvaccinated population is now a well-established entity but this case is unique as : Patient has had both COVID vaccines and then tested positive for COVID afterwards.

Presented with vague symptoms and had minimum oxygen requirement.

Developed Arterial thromboembolism and acute leg ischemia after 4 days of admission ultimately leading to above knee amputation.

Data on COVID and COVID vaccine's association with thromboembolism is controversial and specifically their association with Arterial thromboembolism still needs to be explored further . Our case was challenging as a)patient was a difficult historian and it reflects the difficulty in screening for other possible illness in COVID patients b) It is still difficult to establish whether the thromboembolism was a complication of COVID, vaccine, COVID or was there an underlying synergistic interaction of both.

Case Presentation

61 Years old gentleman presented with vague history of lethargy ongoing for 3-4 weeks and no significant prior co-morbid except sickle cell trait.
-Doubly vaccinated.

-Denied SOB /Chest pain /fever/ cough on admission.
-O2 Saturations of 77 % on R.A ,PO2 of 7.4 with normal RR /HR /BP .
-On Examination of chest : Bilateral crepitations on auscultation.
-Raised inflammatory markers and d-dimer of >3000.
-CXR consistent with bilateral COVID pneumonitis changes.
-Dexamethasone commenced
-COVID PCR test +ve.

Throughout his inpatient stay, maximum amount of oxygen required was 36%(Fio2) on day1 which improved to 28- 32% later with no tachypnea or tachycardia and remained asymptomatic.

Thus, it was decided to go ahead with CTPA to rule out Pulmonary embolism only if oxygen requirement worsens or if patient develops S/S of P.E.

Oxygen requirement continued to remain static afterwards at 28-32%.

Inflammatory markers started improving.

On Day 4, patient complained of severe Right Leg pain. On further enquiry, it was revealed that patient has been experiencing ongoing mild leg ache for last 2-3 weeks which patient attributed to his generalised illness.

O/E : Legs were bilaterally ice cold to touch with associated hair loss and shiny skin.

Pulses in both legs down from the femoral artery were not palpable.

Lactate of 2.6 with worsening inflammatory markers.

No fever spikes or worsening oxygen requirement or any other symptoms apart from sudden worsened severe leg pain.

Vascular Surgery confirmed examination findings with bedside doppler.

Therapeutic anticoagulation was commenced suspecting acute leg ischemia.

Urgent CT Angio report showed: Occlusion of Right iliac system, common femoral artery , part of the SFA and all the popliteal artery and tibial vessels , unstable thrombus in the left common iliac artery causing severe stenosis and occluded left TP trunk.

Patient underwent Right ilio-femoral embolectomy, left common iliac angioplasty via left groin approach and later right above knee amputation.

Postoperatively he remained well and had subsequently tested COVID negative later.

He was then discharged to Rehab from hospital for further care.

Discussion

COVID-19 has been linked to both arterial and venous thromboembolic complications and is a predictor of worse prognosis in COVID patients. Mortality as high as 46% is reported in one retrospective study¹. It is thought that inflammation secondary to viral infections could trigger a pro-coagulant cascade but the exact mechanism is still under-explored and unclear¹. Fear related to COVID 19 and main focus on respiratory aspects of disease has severely affected early recognitions and timely investigations of other diagnoses. As in our case , patient himself has been ignoring his ongoing leg pain for days. On the other hand, some COVID vaccine's association with thromboembolism is still controversial and a lot more work needs to be done.

Conclusions

We suggest that COVID patients with significantly raised d-dimers should be thoroughly examined and investigated clinically for hidden thromboembolic focus not just in lungs but in other organs as well. There should be a consensus / guideline regarding anticoagulation prophylaxis or scoring system to avoid missing other thromboembolic phenomenon apart from COVID and complications of COVID.

No Conflict of Interest

References

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