Baylor College of Medicine

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St. Luke's Health

COVID-19 pneumonia in a lung transplant recipient

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Vignette

- 63 YO M s/p bilateral lung transplant in 2014 for Idiopathic pulmonary fibrosis

- Day 0 - Calls transplant coordinator with nasal congestion and headache which he normally experiences with humidity and changes in the weather - A nasal decongestant is prescribed

- Day 1 - Son calls and reports that patient is now dyspneic and saturations are 70-80% on room air – He is advised to call EMS and bring patient to the ER.

Vignette

- ROS: + back pain, no fever, other systems negative.
- PMH: CKD III, HTN, CAD
- Surgical history: VATS decortication in 2015 of the left side.
- Social History: no known sick contacts

Transplant History

- CMV (-/+), BLTx 2014, complications were recurrent L pleural effusions and R hemi-diaphragm palsy

- Home meds:
  - Tacrolimus 1 mg BID
  - Mycophenolate mofetil 1000 mg BID
  - Prednisone 5 mg daily
  - Prophylactic Azithromycin and Trimethoprim-Sulfamethoxazole

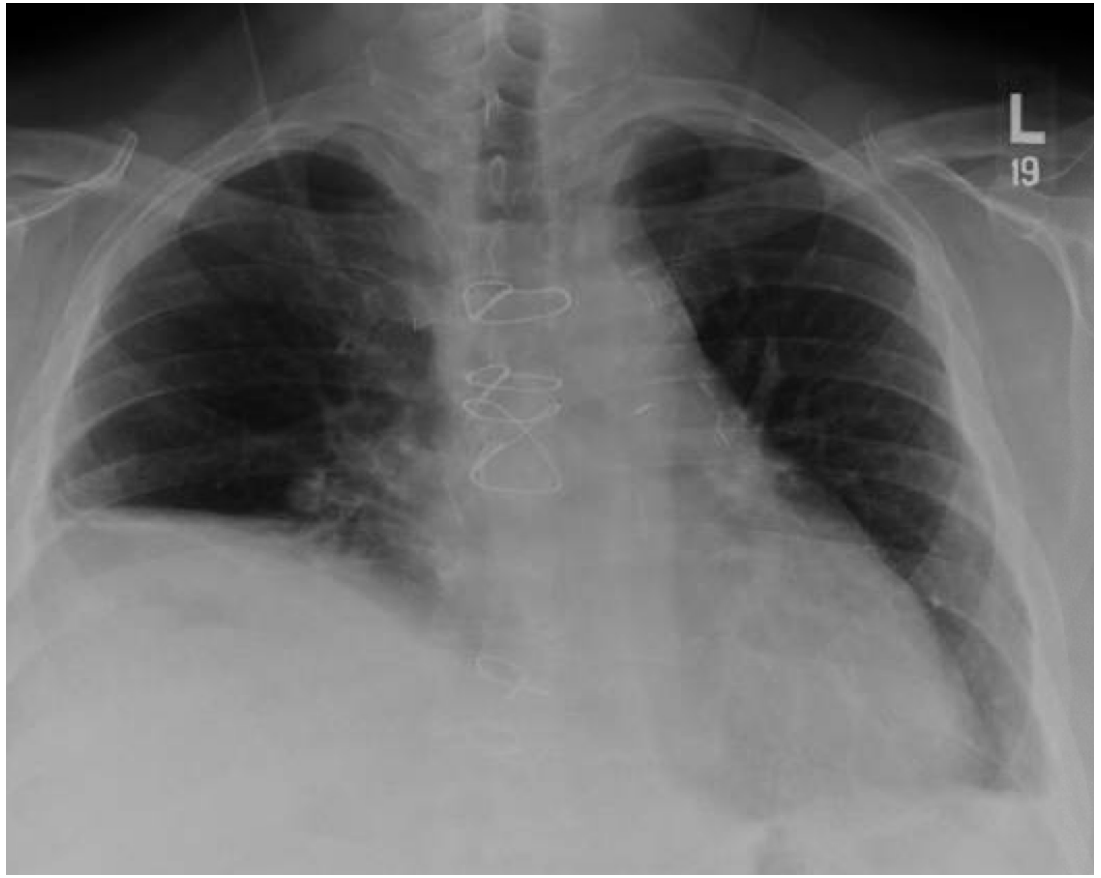
Hospital course – Initial evaluation

- Patient presents to the ER with the following vital signs:
  - Temp 98.7 °F (37.1 °C)
  - BP 138/82
  - Pulse 98
  - Resp 18
  - SpO_2 91-95% on 3 LPM nasal cannula

- Physical exam remarkable for mildly increased work of breathing, clear breath sounds, no wheezing, other systems normal

On admission

Baseline



Labs

- CBC: WBC: 12.7, Hemoglobin: 9.5, Platelets: 269, ALC: 0.78
- BMP: Na:130, K:4.3 Cl: 94, CO_2: 27, BUN: 26, Cr: 1.88, Glu: 122 Ca 9.2
- Troponin: <0.01
- COVID-19 labs:
  - CRP: 23 (ULN 0.5mg/dL)
  - D-dimer: 0.78
  - LDH: 505
  - Ferritin: not checked
- Tacrolimus level: 5.3

Hospital course – Initial Management

- Empiric treatment for community-acquired pneumonia with MDRO risk factors with Vancomycin and Cefepime
- SARS-CoV2 – RT PCR : POSITIVE
- Started on Dexamethasone 6 mg daily, given one dose of convalescent plasma, and Remdesivir (EUA) 200 mg followed by 100 mg daily

Other studies

- Blood cultures: negative
- Sputum culture: normal flora.
- Rapid Flu: negative
- Respiratory Viral Panel: negative
- Echo: LVEF>60% , RV size and function normal
- LE duplex: no thrombus

Poll

- Would you continue all immunosuppression medications?

Hospital course – Subsequent management

- Tacrolimus continued, MMF held, Prednisone held while on Dexamethasone
- Enoxaparin 0.5mg/kg BID started
- Patient required 3 LPM supplemental O_2, self-proned for 2 nights
- On hospital day 5, he completed course of remdesivir, was down to 1.5 LPM oxygen and subjectively better
- Discharged on 2 LPM, asked to finish Dexamethasone course PO at home

Hospital Follow-up

- Calls coordinator after completing dexamethasone course, prednisone is resumed, saturations are 98% on room air.

- Virtual visit in 2 weeks, symptomatically better, some fatigue, had thrush with dexamethasone use. Advised to resume MMF but had to start at a lower dose because of GI side effects.

Hospital Follow-up (Continued)

- Face-to-face visit at 4 weeks: Clinically stable, had around 100 mL loss of FEV_1 attributed to viral infection.
- Face-to-face visit 8 weeks: FEV_1 back to baseline and CT chest done showing no residual scarring. Plan to get herniated disk repaired.

Timeframe	FVC (L)	FEV_1(L)	6MWD
1 year prior	1.75	1.14	335 m, 89% nadir RA
2 months prior	1.83	1.14	331m, 88%
4 weeks post – COVID-19	1.55	1.03	Refused 6MWT 2/2 back pain
8 weeks post – COVID-19	1.74	1.14	280 m, 87% nadir, 2 LPM

Thank you!

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