COVID-19 INFECTION AND PULMONARY EMBOLISM IN A CASE OF LYMPHOMA

By Dr Ponvijaya Yadav

Dept of General Medicine

History

65 year old female came to OPD on 10/3/2020 with c/o

- Right side neck swelling since 3 months
- H/o weight loss of 8-10 kg in last 6-7 months
- On inspection multiple discrete swellings noted
- largest measuring approx 2*2 cm
- with ulcerations and serous discharge

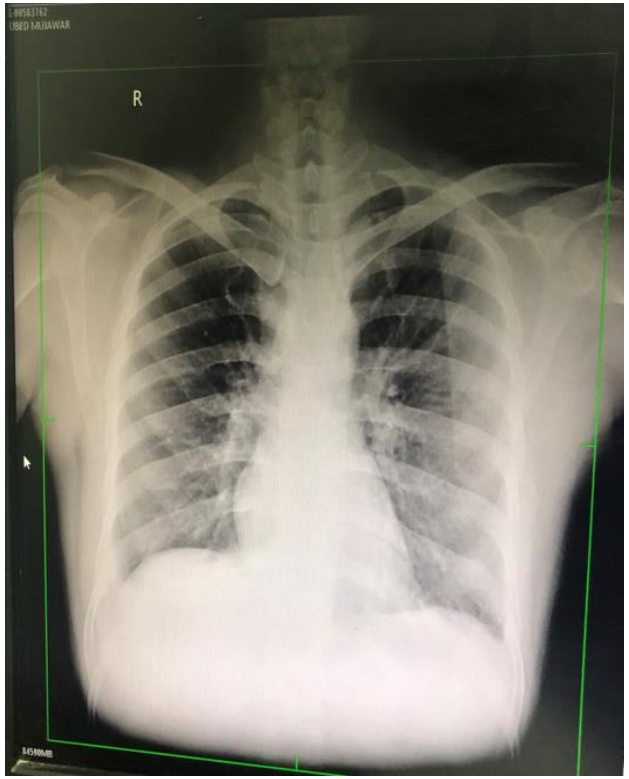
- Pulse 90bpm regular, BP 110/70mmhg, SpO2 95% on room air.

- Systemic examination was WNL.

LAB PARAMETERS

Hb	12.20 gm%
TLC	10900/ul
PLT COUNT	249000
TOTAL BILIRUBIN	0.30 mg/dl
DIRECT/INDIRECT	0.06/0.24 mg/dl
SGOT/PT	25/10 U/L
ALP	115 U/L
TOTAL PROTEIN	6.81 g/dl
ALBUMIN/GLOBULIN	3.37/3.44 g/dl
UREA	19 mg/dl
CREATININE	0.81 mg/dl
URINE R/M	WNL

CHEST X RAY



- USG Neck- Multiple hypoechoic lymph nodes of size 1-2 cm at level II and submandibular region suggestive of neoplastic etiology.

FNAC of Right cervical Lymph node-

- Non-Hodgkin’s lymphoma

Excisional biopsy of Right cervical lymph node-

- Proliferation of large lymphoid cells, with elongated, pleomorphic, and prominent nucleoli along with few scattered small lymphocytes.

On Immunohistochemistry:-

- Neoplastic lymphoid cells are strongly positive for CD45, CD20, CD10, Bcl2 and Bcl6. and negative for Pan CK, HMB 45 and C3.
- Ki 67 index is 65 percent.

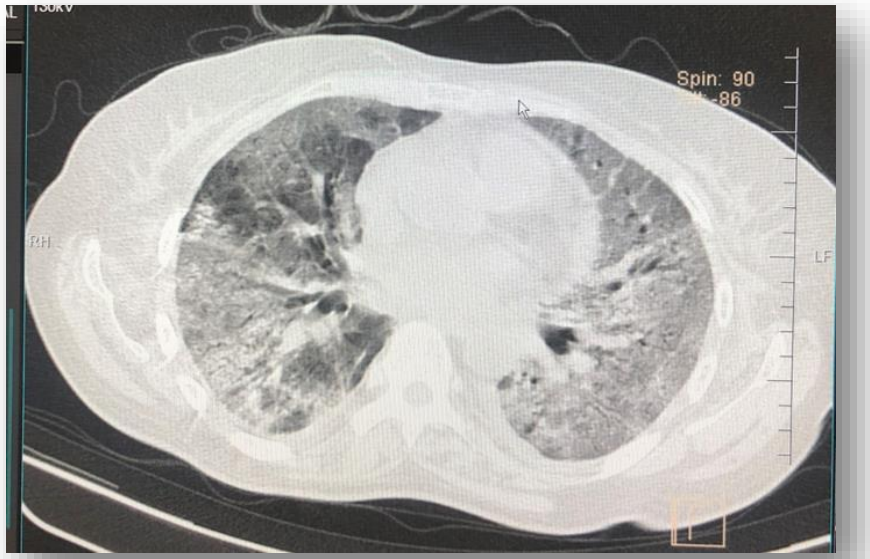
She was diagnosed as Diffuse large B cell lymphoma.

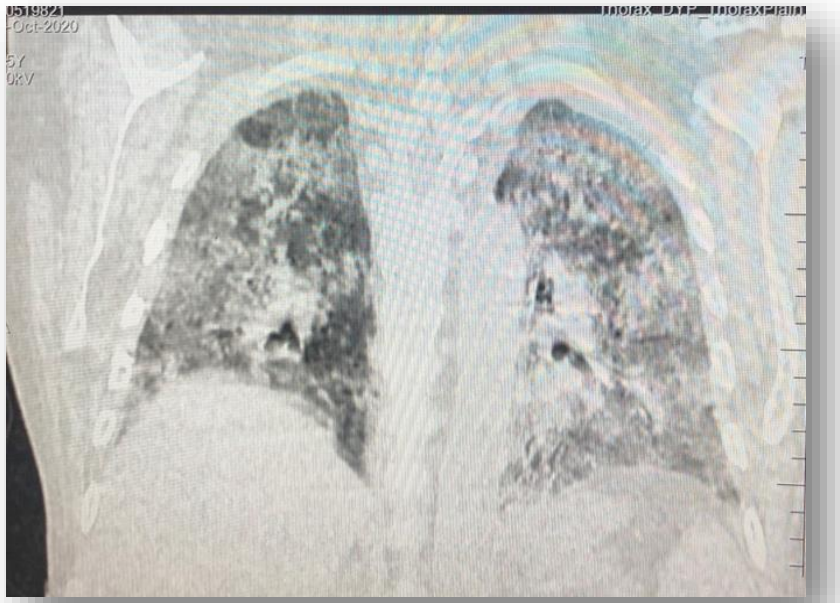
Oncologist reference was taken , chemotherapy started

- Cycle 1- Cyclophosphamide (500mg) + Mesna (200mg).
- Cycle 2 CHOP regime- Cyclophosphamide (500mg) + Adriamycin (70mg)
  + Vincristine (2mg) + Prednisolone (40mg)
- Cycle 3 R CHOP regime- Rituximab (600mg) + CHOP regimen
- Cycle 4 ICE regime- Ifosfamide (2gm) + Carboplatin (300mg) + Etoposide (150mg).
- After 4th cycle case reviewed and
- PET scan done : Hypermetabolic bulky right cervical nodal mass with low grade activity in bilateral axillary, and left abdominopelvic nodes.
- **Repeat Histopathology done : Diffuse large B cell lymphoma**.
- Cycle 5/6/ R ICE regime- Rituximab (500mg) + ICE regime given to which patient responded

- **10/9/2020 , Patient came back for 7th cycle, but had fever and breathlessness**
- **she tested COVID +ve**
- Lab investigations: All routine- WNL,CRP- 114, D- dimer-574, Procal- 12.38, Ferritin-852

HRCT THORAX

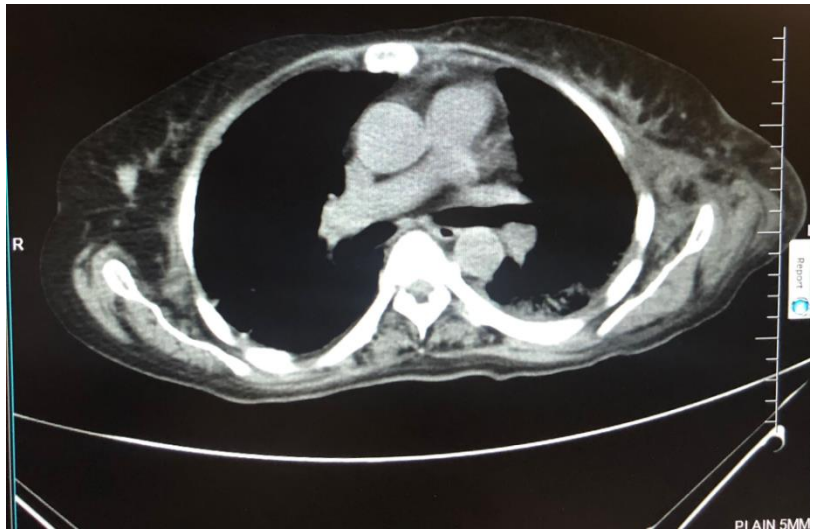


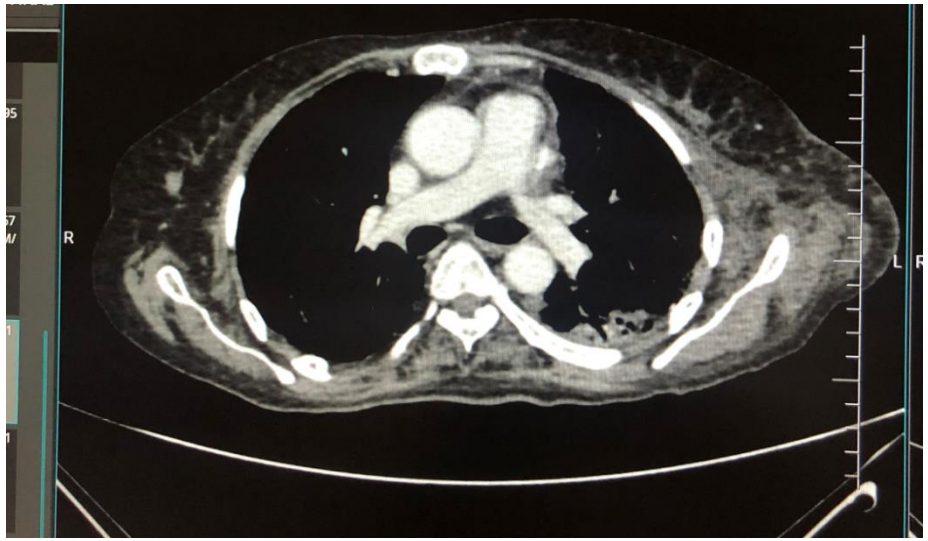


Diffuse ground glass opacities in central and peripheral areas with septal thickening and crazy paving pattern on all segments of bilateral lung fields, CT SCORE 24/25.

- Was shifted to Covid ICU and started on Inj. Imipenem + Cilastin (500mg), Inj. Enoxaparin 0.4cc s/c OD, Inj. Dexamethasone 6mg OD and Inj. Remdesivir given. **Patient improved , and was sent Home in 2 weeks**

- 4 weeks later on 4/10/2020 she came with breathlessness, tachypnea.
- On examination: Pulse- 110bpm, BP- 110/70 mmhg, **RR 30/min, SpO2 88% on room air.**
- **Repeat covid RTPCR - negative**
- CTPA was done : suggestive of Pulmonary embolism

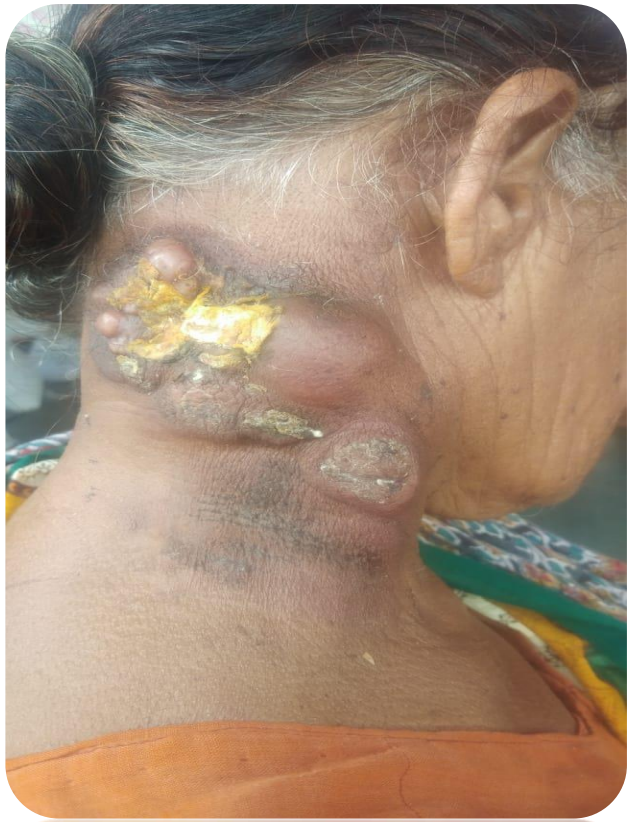




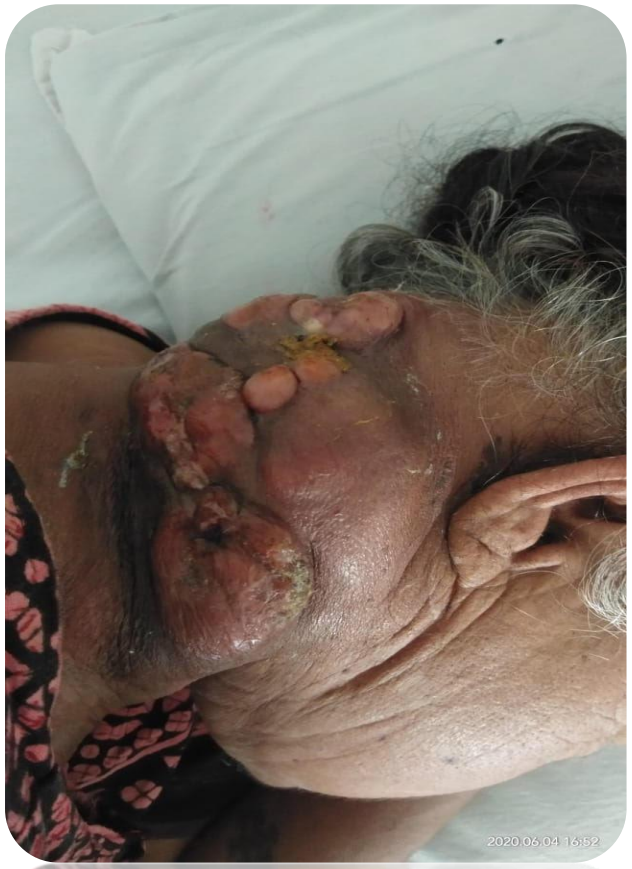
Partial filling defect in b/l posterior basal and right side lateral basal arteries and distal branches s/o thrombosis.

- **CT SCORE 22/25.**
- Was put on NIV, started antibiotics: Meropenem and Tigecycline & anticoagulants :Inj.Enoxaparin 0.6 cc s/c BD
- Patient improved
- Discharged on rivaroxaban 15mg, Tab. Pirfenidone 200mg , and home oxygen therapy

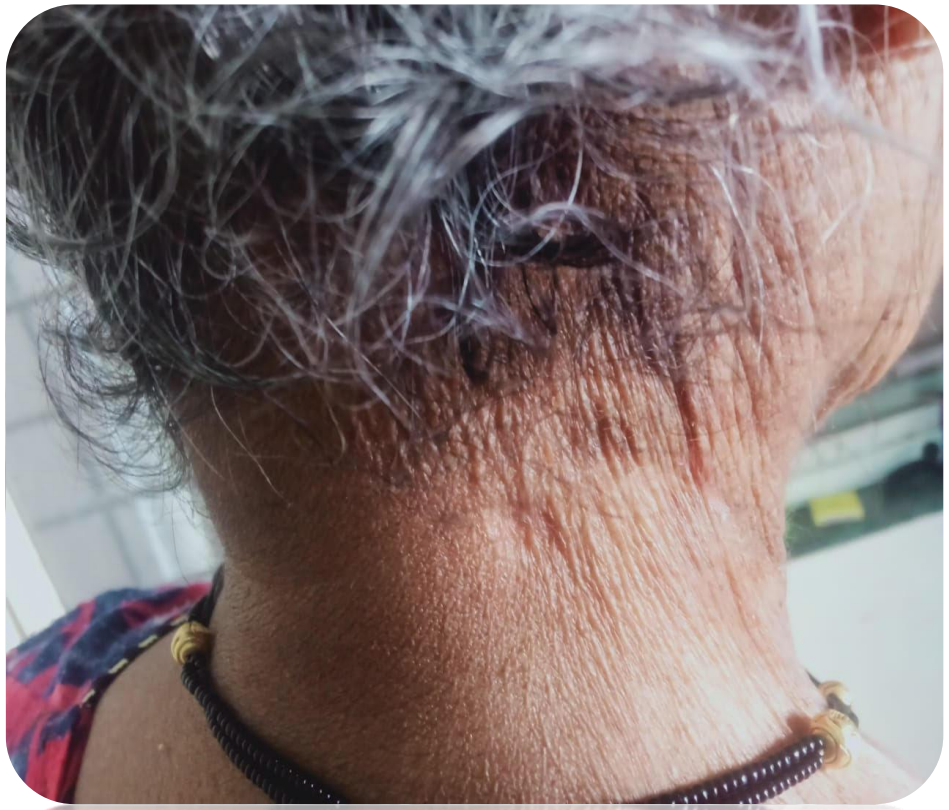
ON ADMISSION



5 MONTHS LATER



10 MONTHS LATER



DISCUSSION

- Diffuse large B-cell lymphoma (DLBCL) is the most common histologic subtype of NHL
- Median age at diagnosis is 64 yrs.
- Diffuse proliferation of large, atypical lymphocytes with high proliferative index, typically express the B-cell antigens CD19, CD20, and CD79a.
- BCL2 is overexpressed, whereas BCL6 is positive in more than two-thirds of cases.
- Fever, weight loss, night sweats, lymph node enlargement , liver & splenic enlargement
- The neoplastic cells are heterogeneous but predominantly large cells with vesicular chromatin and prominent nucleoli.
- R-CHOP regime is the standard first-line chemotherapy.
- **Patients with chemosensitive disease have greatest likelihood of benefiting from high-dose chemotherapy and autologous stem cell transplant, which improves survival rate.**

COVID-19 AND HEMATOLOGICAL MALIGNANCY

- Hematological malignancy such as lymphomas, leukemias, myelomas cause severe myelosuppression and lymphodepletion increasing the risk for development of covid-19.
- Studies have shown that patients with malignancy had an estimated two-fold increased risk of contracting SARS-CoV-2 than the general population .

- **The survival rates strongly depends on COVID-19 stage and other factors such as immune (neutropenia) status and systemic inflammation (high CRP)].**

TAKE HOME MESSAGE

Inspite of having immunocompromised state of Malignant ,Diffuse B cell Lymphoma on chemotherapy

Our patient recovered from Covid 19 infection and one of its complications , pulmonary embolism

Credits go to the patient herself , her dedicated family and the team of residents and the staff who treated her in

medicine ward and Covid ICU of Our hospital .

Today ,patient walks about at home and requires only intermittant oxygen

She is determined to complete her last cycle of chemotherapy .