CASE PRESENTATION

HISTORY

- **Chief Complaint:** Lower limbs weakness
- **Present illness:**
  - A 47 year old man was admitted to the emergency room with paraplegia **since 6 hours ago.**
  - His earliest symptoms was **urinary retention** that started 12 hours before lower limbs weakness.
  - The paraplegia occurred abruptly and was accompanied with a dull pain in the flanks and abdomen that subsided 1-2 hours later.
  - The patient also reported **decreased sensation of lower limbs and torso**.
  - He denied any symptoms in upper limbs.
  - 10 days before the onset of paraplegia, the patient had fever, cough and diarrhea. He was diagnosed with COVID-19 and quarantined at home.

HISTORY CONT.

- **PMHx:** None
- **FHx:** None
- **DHx:** None
- **HHx:** Alcohol(Occasional)

PHYSICAL EXAMINATION; GENERAL

V/S: BP: 110/70, PR:72, T:36.5, RR:12, O_2sat: 98% without O2

Redor/Kerning/Brudzinski: (-)

Lung: without crackle

Heart: S1, S2, without soufflé

Abdomen: without tenderness or organomegaly

Extremeties: Nl pulses

No lymphadenopathy was detected

PHYSICAL EXAMINATION; NEUROLOGIC

- Mental Status: MMSE:30/30
- Cranial nerves: Intact
- Motor examination:
  - Tone:
    - Upper limbs: NL
    - Lower limbs: Flaccid
  - Force:
    - Upper limbs: 5/5 proximal and distal
    - Lower limbs: 0/5 proximal and distal
- Sensory:
  - Hypesthesia in lower limbs
  - Sensory level at T10

Cerebellar

Intact in upper limbs

- Reflexes:

  Abdominal reflexes: negative

  Plantar reflex: Neutral

  DTR:

DTR	Biceps	Triceps	BR	Knee	Ankle
Rt	2+	2+	2+	0	0
Lt	2+	2+	2+	0	0

IMPRESSION

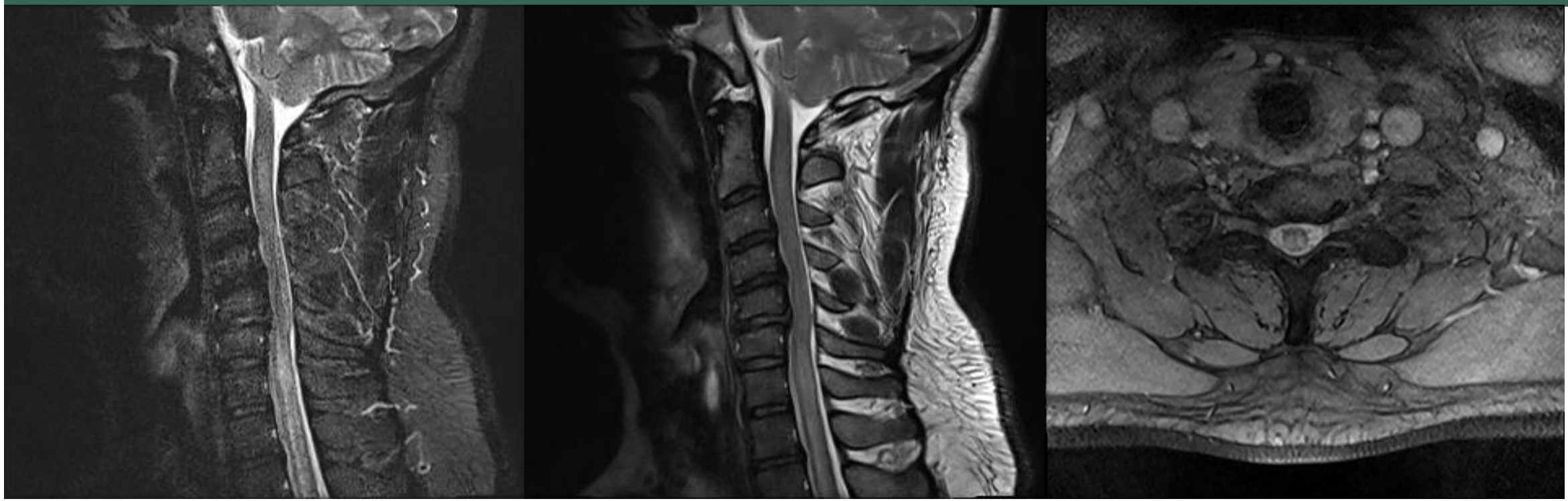
- Symptomatic Diagnosis:
  - **Acute Flaccid Paraplegia**
- Anatomical Diagnosis
  - **Spinal cord(thoracic or cervical)**
- Etiological Diagnosis

Cause	Suggestive Diagnostic Clues
Multiple sclerosis	Oligoclonal bands in CSF, suggestive lesions on brain MRI, short-segment cord lesion located peripherally, history of prior neurologic deficits
Neuromyelitis optica	Neuromyelitis optica IgG in serum, lack of oligoclonal bands, long-segment lesion in spinal cord located centrally, rostral extension into brainstem, history of optic neuritis or brainstem syndrome
Sarcoidosis	Concurrent or prior cranial neuropathy, aseptic meningitis, elevated angiotensin-converting enzyme level in blood or CSF, persistent enhancement over 2 months or dorsal subpial pattern of enhancement, hilar lymphadenopathy demonstrated by x-ray and often visible only on CT or positron emission tomography (PET)/CT
Systemic lupus erythematosus	Positive antinuclear antibodies, anti-double-stranded DNA, anti-Smith or antiphospholipid antibodies in serum; decreased complement levels; history of rash, arthritis, serositis, or renal or hematologic disorders; some cases from comorbid neuromyelitis optica but can also occur with negative neuromyelitis optica antibody
Sjögren syndrome	Many cases from comorbid neuromyelitis optica but can also occur with negative neuromyelitis optica antibody, positive anti-Ro/La in serum, sicca syndrome with dry eyes and dry mouth
Infectious causes	Fever at onset, associated encephalitis, associated rash, CSF white blood cell count of more than 100 cells/μL; specific infectious studies: serum anti-treponemal antibody (followed by CSF venereal disease research laboratory test if serum positive), human immunodeficiency virus, and Lyme antibodies; CSF polymerase chain reaction (PCR) for herpes simplex virus types 1 and 2, varicella-zoster virus, cytomegalovirus; CSF serology for varicella-zoster virus (more sensitive than PCR), West Nile virus (most common arbovirus in United States), and other viruses as indicated (including Epstein-Barr virus and human herpesvirus 6 for immunocompromised patients); rarer causes as indicated by probable exposure history
Postvaccine	History of vaccine preceding myelitis usually by 2 to 4 weeks but ranging from days to 3 months[35]
Postinfectious/ parainfectious	History of systemic infection preceding or concurrent with myelitis, often associated with positive serology for *Mycoplasma*, recently associated with Zika virus exposure
Acute disseminated encephalomyelitis	Most commonly a pediatric disease, history of preceding infection or vaccine, accompanying acute onset encephalopathy, MRI brain often with large lesions
Paraneoplastic	Positive onconeural antibody often anti-amphiphysin or collapsin response mediator protein-5, known malignancy but can precede detection, MRI with longitudinal, symmetric lesion but can be normal[36]

LABORATORY DATA

WBC	8200	**ALP**	117	**CRP**	6
Hb	14.9	**Bill T**	1.1	**ESR**	5
Plt	209	**Bill D**	0.4	**B12**	>1000
Lymph	10%	**Ca**	8.4	**Alb**	5.4
BUN	16	**Na**	137	**CPK**	312
Cr	1.1	**K**	3.8	**SARS-COV-2 PCR**	Positive
AST	219	**LDH**	856	**SARS-COV-2 PCR IgM**	11.71
ALT	113	**BS**	191	**SARS-COV-2 PCR IgG**	18.32

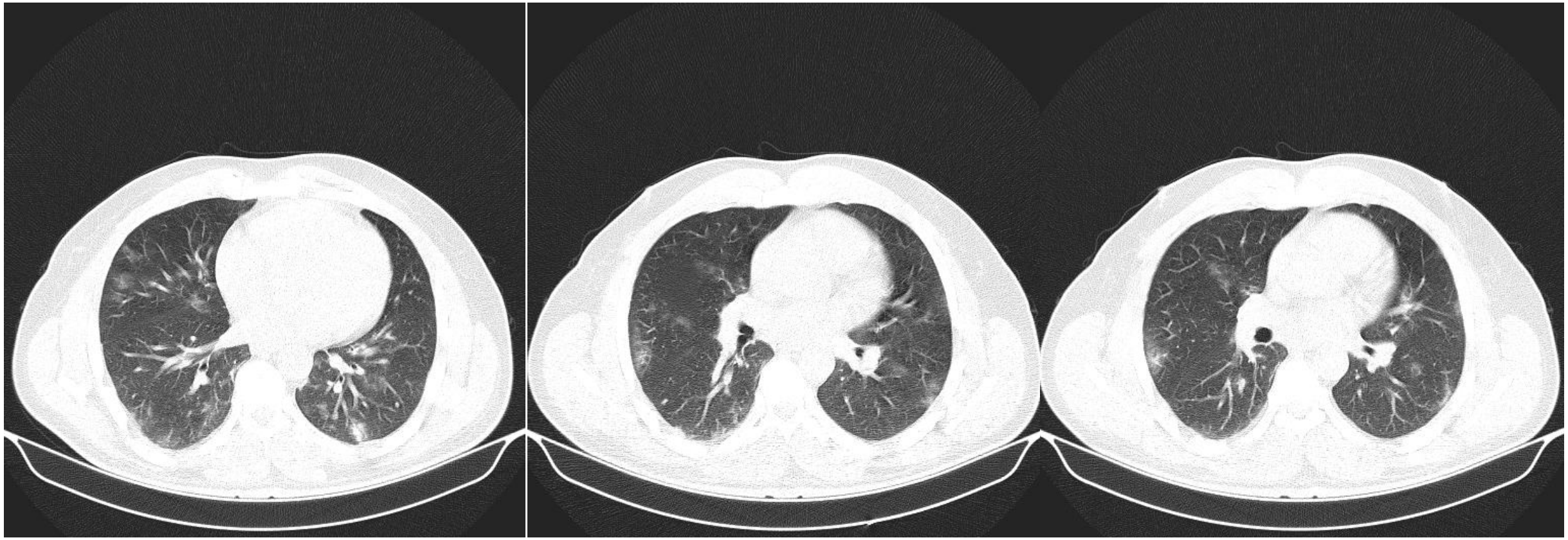
CERVICAL MRI



LABORATORY DATA

CSF		**EBV IgG**	Neg	**Anti La**	Neg
WBC	650	**EBV IgM**	Neg	**Antiphospholipid**	Neg
RBC	840	**VZV IgG**	Neg	**Anti cardiolopin**	Neg
Pr	110	**VZV IgM**	Neg	**Lupus anticoagulant**	Neg
Glu	40	**RF**	Neg	**Aquaporine-4 Ab**	Neg
PMN	80%	**Anti dsDNA**	Neg		
Smear	Neg	**ANA**	Neg		
Culture	Neg	**Anti Ro**	Neg		

CHEST CT SCAN



CHEST CT SCAN REPORT

اسکن

اسپیرال ریه و مدیاستن با تزریق

کدورت های گراند گلاس به صورت منتشر در هر دو ریه مشهود است که می تواند در زمینه ی عفونت covid-19 باشد. تطابق با PCR توصیه می شود.

لنف نودهای non significant مدیاستن مشهود است.

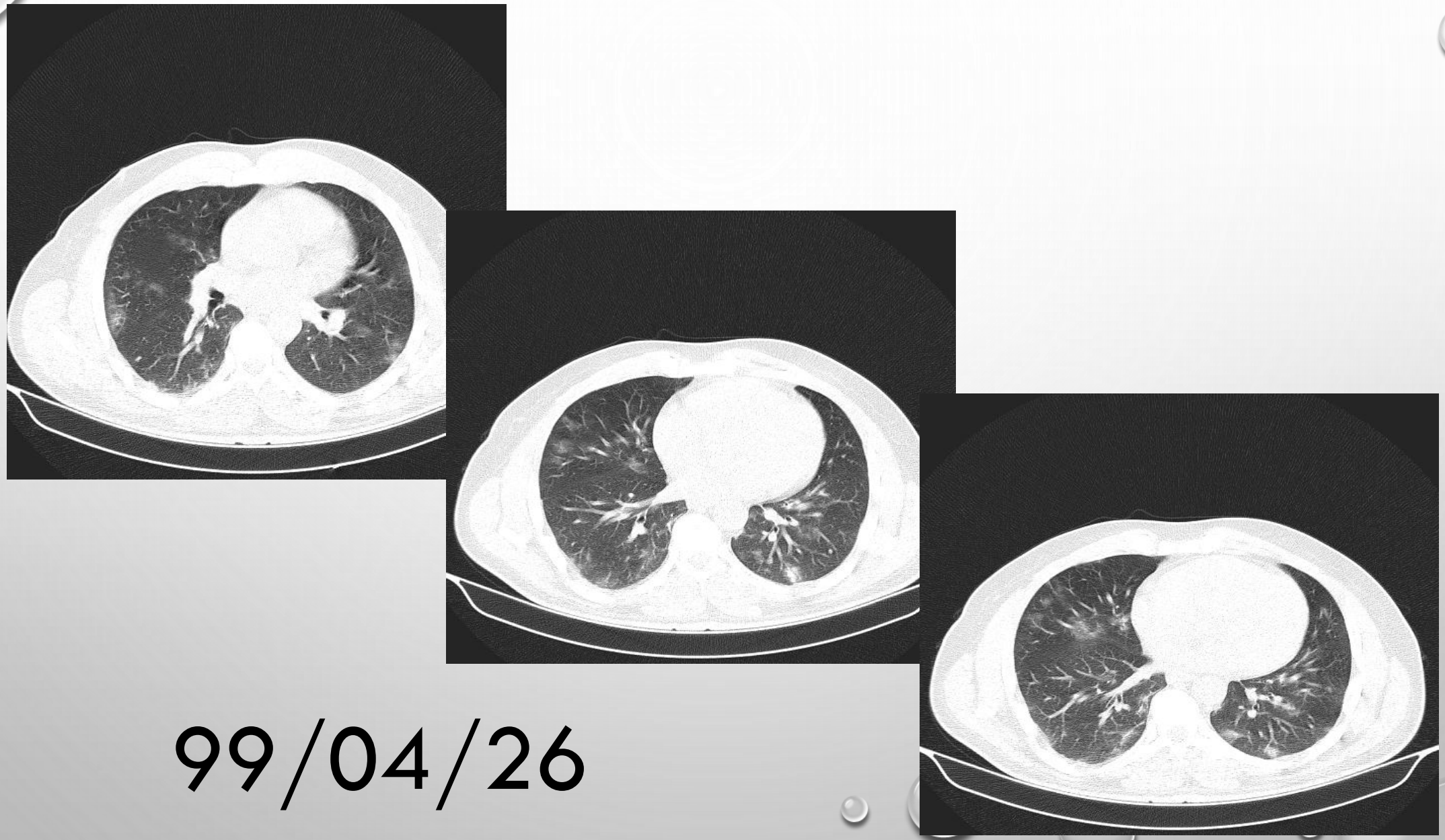
FINAL IMPRESSION: COVID-19 ASSOCIATED MYELITIS

- Transverse myelitis is a rare, acquired neurologic condition characterized by focal inflammation and injury of the spinal cord.
- Transverse myelitis is a recognized complication of viral or bacterial infections.
- There are several reports of COVID-19 associated myelitis amongst the world.
- It is still debatable whether the myelitis occurs directly from the viral infection or as an autoimmune sequalae.

WHAT HAPPENED TO OUR PATIENT?

- The patient was treated with
  - Favipiravir
  - Acyclovir
  - IVMP
  - Plasma exchange × 5 sessions
  - IVIg 25g × 5 sessions
- Unfortunately our patient had no response to treatment.
- Patient was discharged for rehabilitation.

IN THE NAME OF GOD



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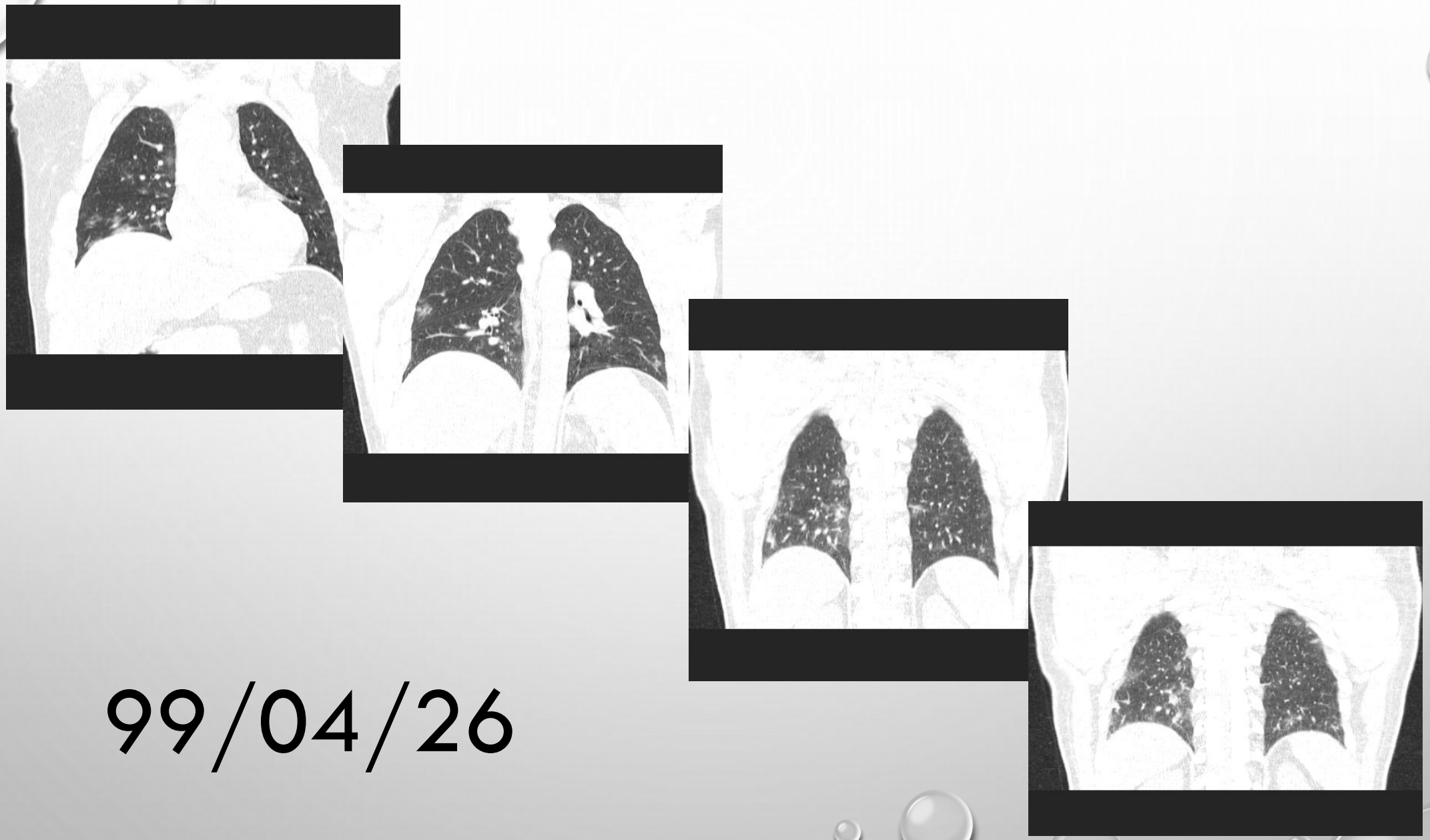

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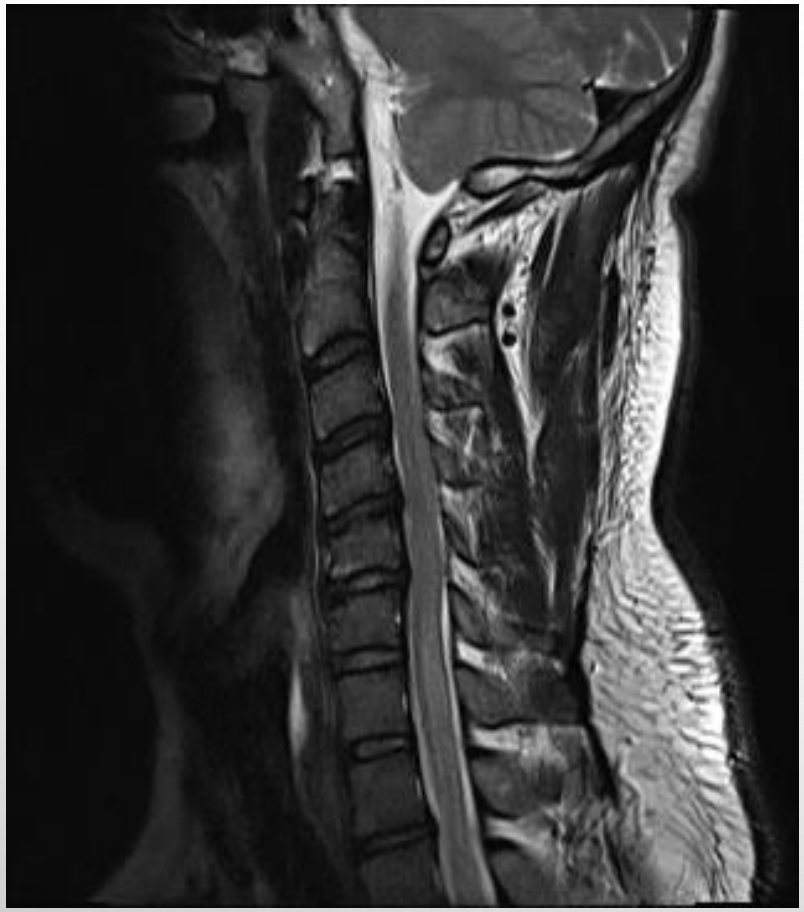

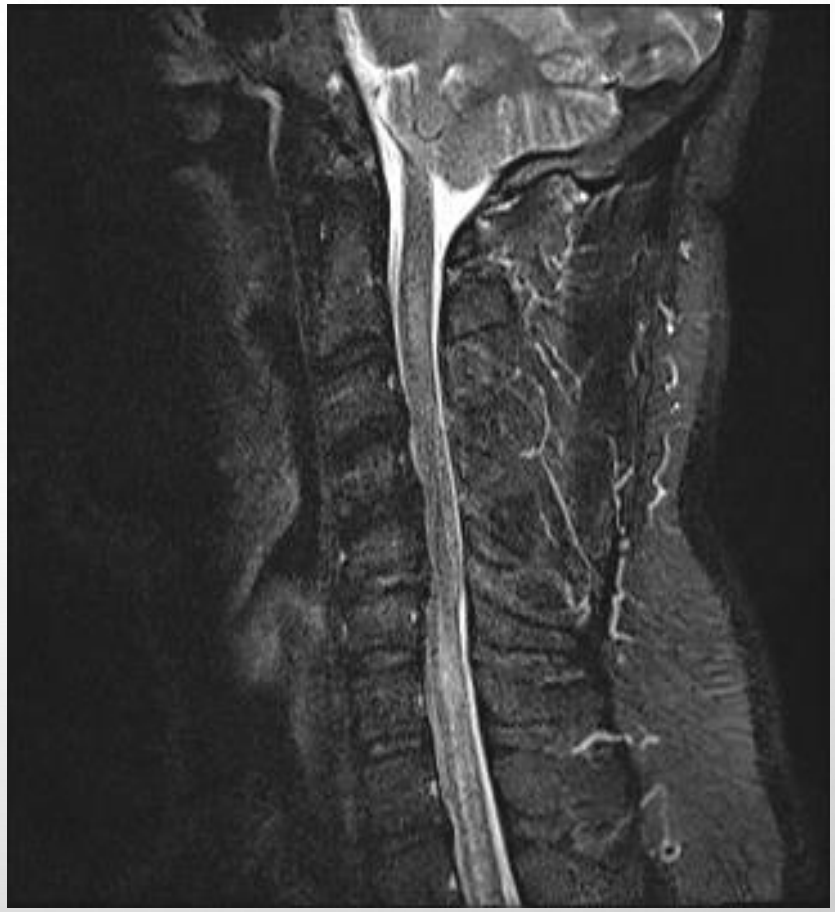

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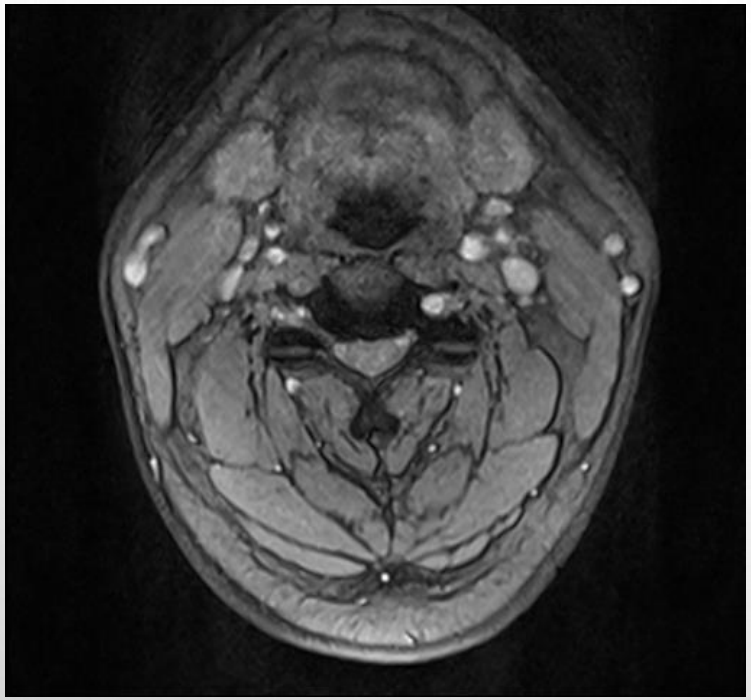

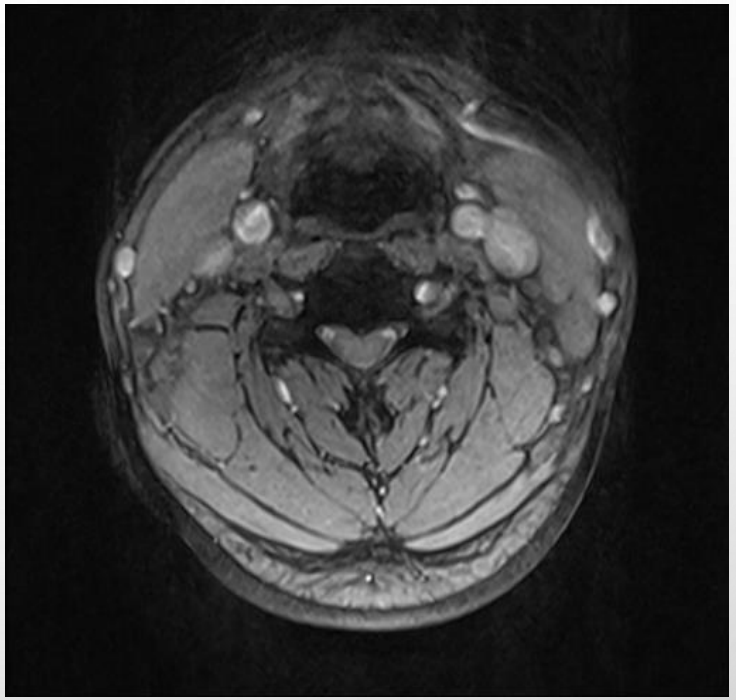

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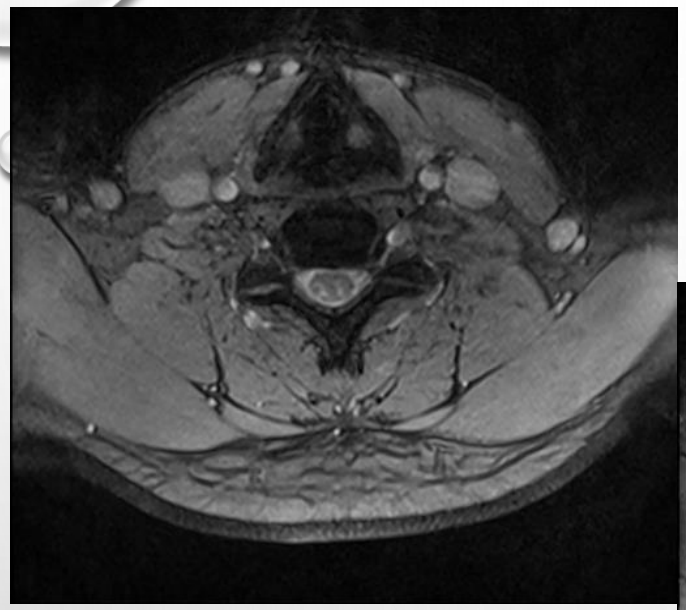

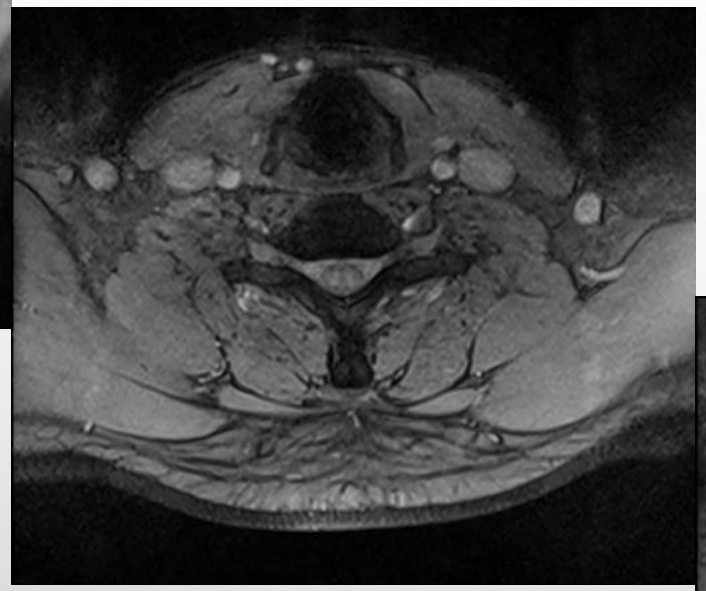

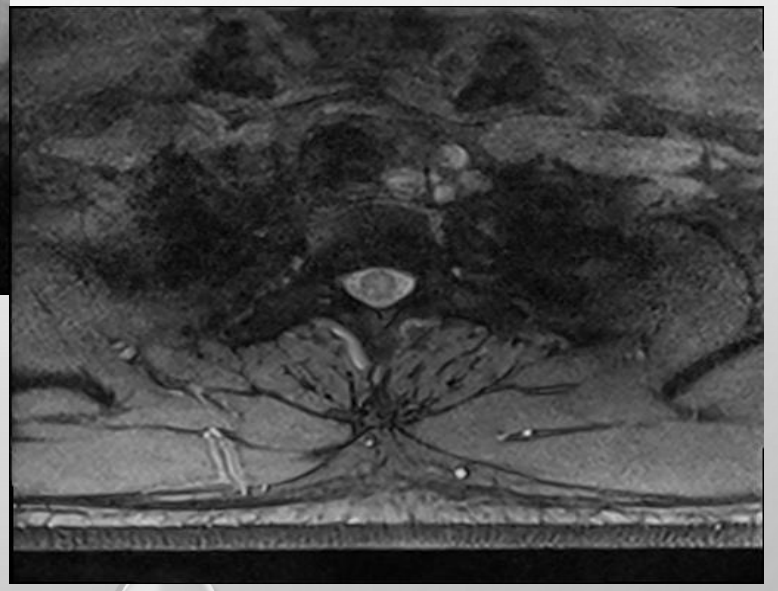

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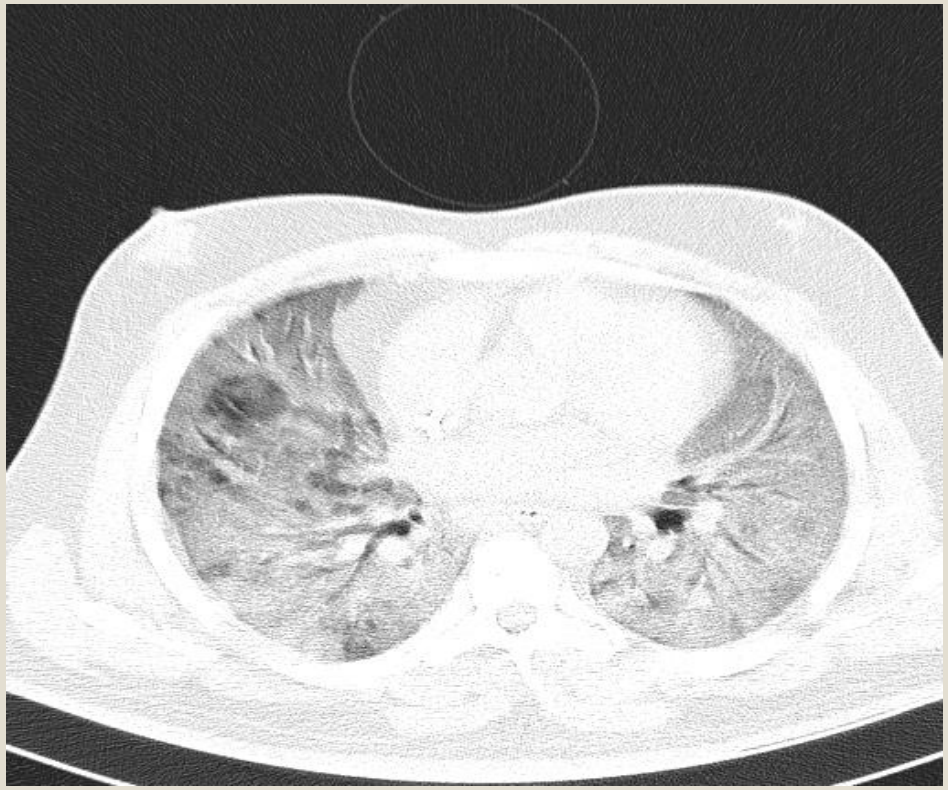

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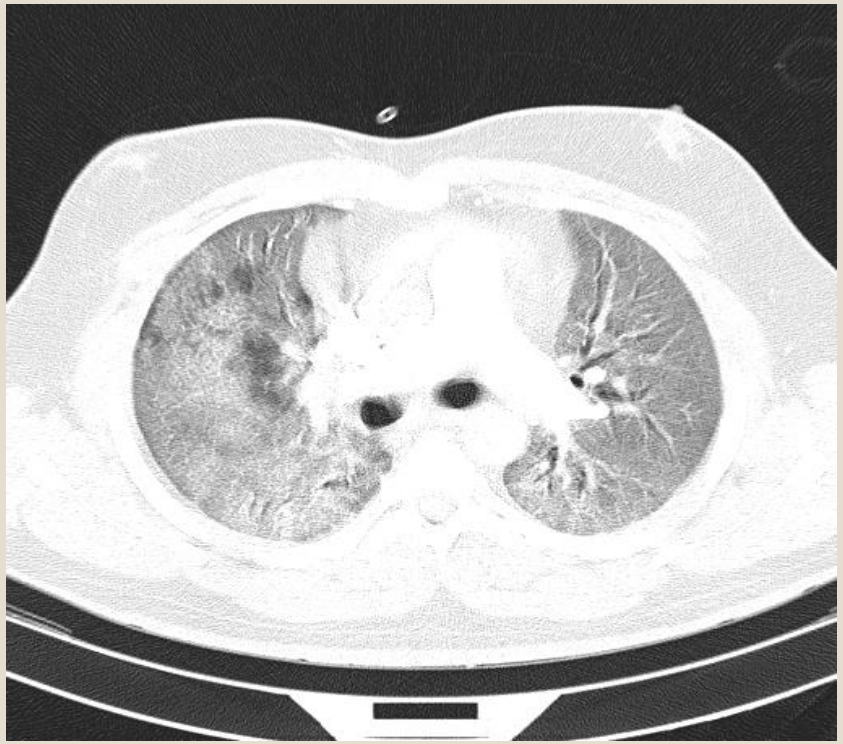

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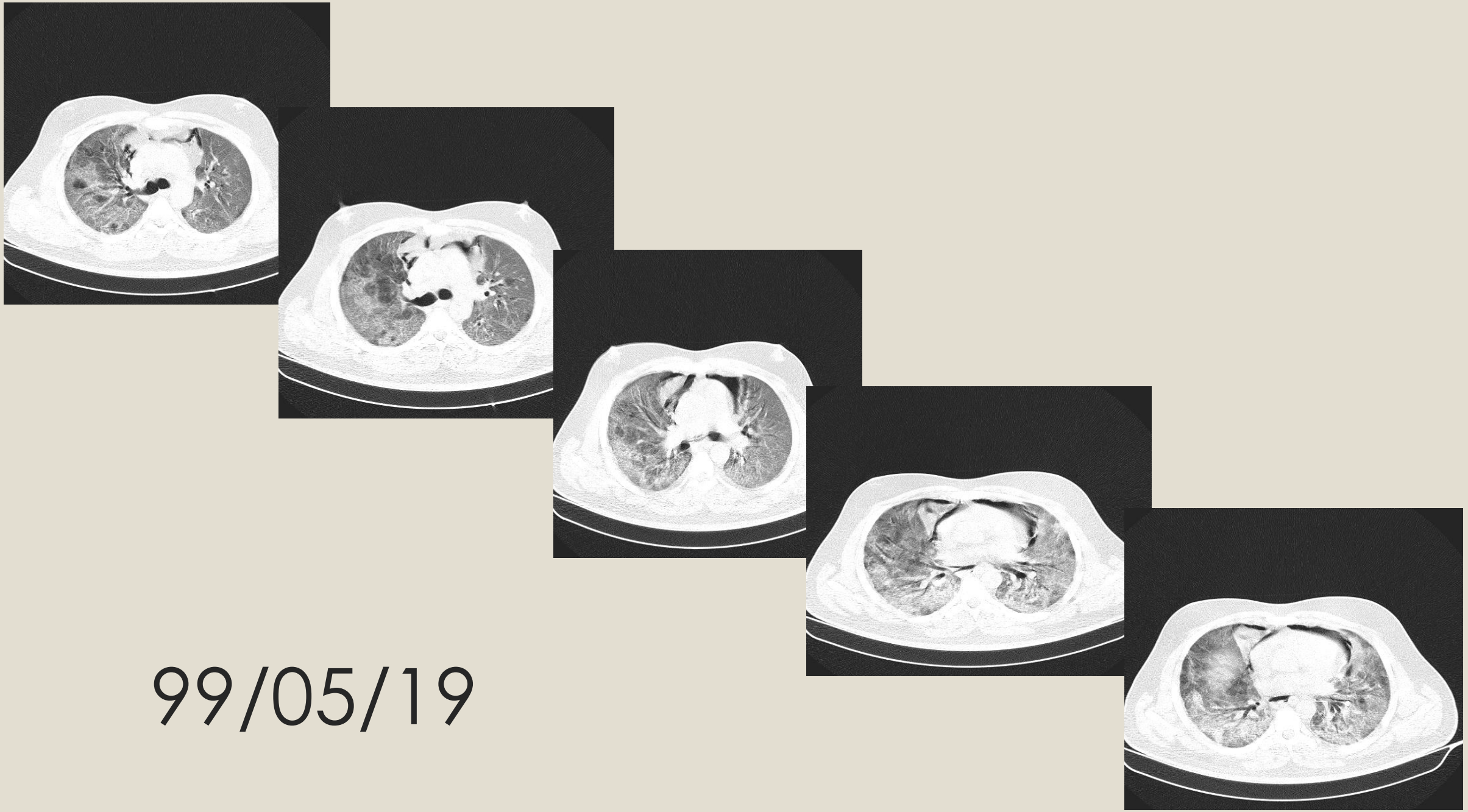

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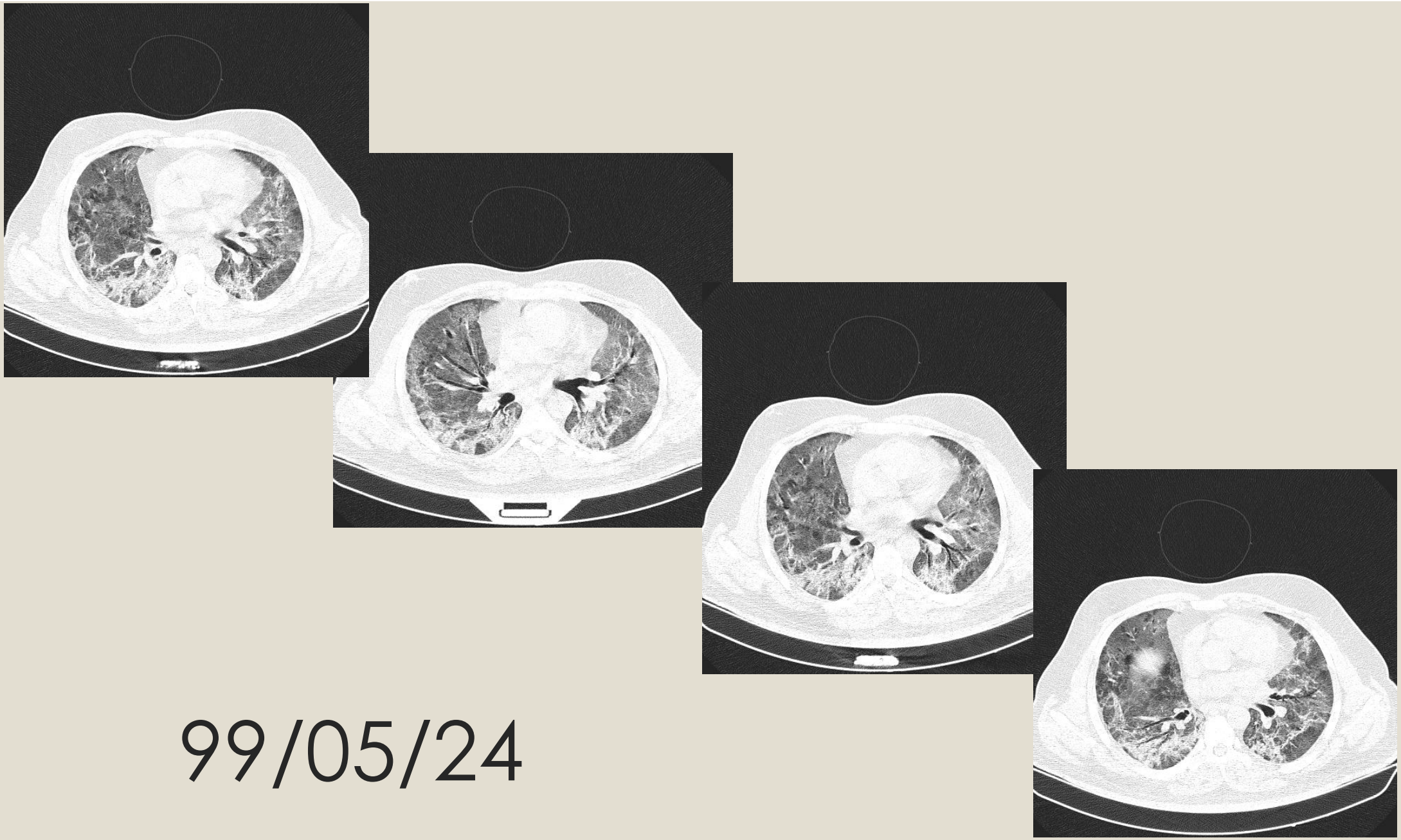

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