INTERESTING CASE OF ACLF DURING COVID PANDEMIC

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CASE HISTORY

A 50 yr old female, from Vellore, Tamil Nadu, with no known comorbidities , not an alcoholic or smoker, presented with complaints of

- Painless, progressive jaundice for one month duration
- h/o easy fatiguability+
- H/o fever for three days, two weeks prior to onset of jaundice
- Not associated with pruritis/ pale coloured stools
- Not associated with constitutional symptoms like weight loss, loss of appetite

- H/o CAM intake+ for 2 days, 20 days prior to admission

  No H/o cough/ reduced urine output

  No H/o Abdominal pain / distension

  No H/o GI bleed /altered sensorium in past

- H/o Jaundice in childhood at 10 years of age - resolved spontaneously

  No H/o Previous blood transfusions /surgeries

Clinical examination on admission..

- Patient moderately built
- Conscious , oriented , afebrile
- No Pallor, No pedal oedema, no clubbing
- **Deep icterus involving upto palms and soles**,
- No significant lymphadenopathy
- **No other peripheral signs of chronic liver disease**
- BP : 110/40 mm Hg , PR :86/min
- Wt : 62kg, BMI- 24.21
- CVS, RS :NAD
- P/A : liver just palpable
- CNS- NFND

INITIAL LABS

Random Blood Sugar	214 mg/dL
B. Urea	12 mg/dL
Sr. Creatinine	0.7 mg/dL
Sr. Sodium	136 meq/L
Sr. Potassium	3.6 meq/L
CRP	8.5
Hemoglobin	10.6 gms%
TC	10570 cells/cu mm
Platelet	160000 cells/cumm
ESR	60 mm/hr

Total Bilirubin	**21.7 mg/dL**
Direct Bilirubin	**20.0 mg/dL**
Total Protein	8.1 gm/dL
Albumin	2.6 gm/dL
Globulin	5.5 gm/dL
ALP	105 IU/L
ALT	**162 IU/L**
AST	**245 IU/L**
GGT	37 IU/L
INR	1.47

Further evaluation….

- Viral markers- HBsAg and ANTI HCV – negative
- ANTI HAV and HEV were negative.
- ANA : 2+ Positive (1 in 320 dilution)
- AMA was negative
- LKM, ASMA- Negative
- Sr. Cerruloplasmin- 10.3 IU/L
- 24 Hours urinary copper- 29 within normal limits

CT abdomen showed

Liver- nodular outline with mild heterogenous enhancement.

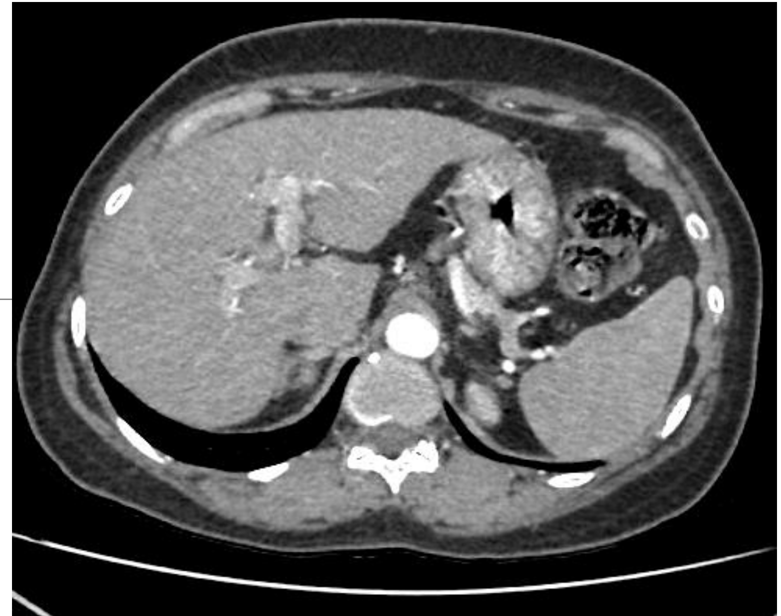
No e/o any focal lesion.

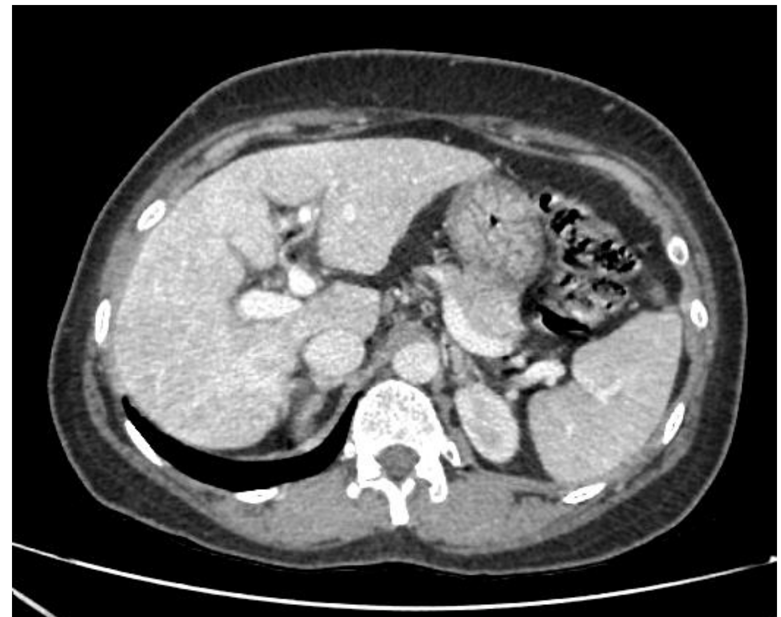
Portal and hepatic veins- normal.

Hepatic artery- normal.

Spleen- Normal

No free fluid





Treatment

In view of coagulopathy and high bilirubin levels, two cycles of therapeutic plasma exchange was done.

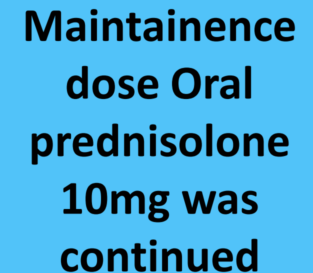
LAB PARAMETERS	DAY OF PRESENTATION	AFTER TWO CYCLES OF PLEX
Total Bilirubin	21.7 mg/dL	**11.9**
Direct Bilirubin	**20.0 mg/dL**	**10.1**
INR	**3.0**	**2.0**

Oral prednisolone at 1mg/kg – 60mg started and planned for slow tapering

Other liver supportive measures continued

On followup

LAB PARAMETERS	DAY OF PRESENTATION	DAY 15 AFTER STEROID	DAY 45 AFTER STEROID
Total Bilirubin	**21.7 mg/dL**	**7.8**	**2.5**
Direct Bilirubin	**20.0 mg/dL**	**6.5**	**2.25**
Total Protein	8.1 gm/dL	6.1	6.2
Albumin	2.6 gm/dL	2.8	2.8
Globulin	5.5 gm/dL	3.3	3.4
ALP	105 IU/L	115	107
ALT	**162 IU/L**	49	29
AST	**245 IU/L**	76	27
GGT	37 IU/L	81	35
INR	**3.0**	**1.9**	**1.37**
Hemoglobin	10.6	10.7	10.9
Platelet	160000	129000	115000



3 weeks later....

She presented with worsening of symptoms :

- Bilateral leg swelling for one week
- Progressive jaundice over three weeks
- H/o fever for one day duration
- H/o fatigue+
- No c/o pruritis/ pale coloured stools
- No c/o bleeding manifestations
- No c/o dysuria/ hematuria/ oliguria
- H/o dry cough+ for one day
- No h/o breathlessness/ chest pain

On admission

Conscious, oriented

Febrile, Temp- 101F

Deeply icteric

B/l pedal edema+

Abdomen –distension+,

shifting dullness+

BP: 80/40 mm Hg

PR: 112/min

SPO2- 98% in RA

LAB PARAMETERS	PREVIOUS FOLLOWUP	CURRENT ADMISSION- 3 WEEKS LATER
Total Bilirubin	**2.5**	**16.4**
Direct Bilirubin	**2.25**	**13.53**
Total Protein	6.2	5.7
Albumin	2.8	2.6
Globulin	3.4	3.1
ALP	107	70
ALT	**29**	**42**
AST	**27**	**64**
GGT	35	31
INR	**1.37**	**2.8**
Hemoglobin	10.9	8.0
Platelet	115000	94000
TLC	9780	**1482**

FURTHER MANAGEMENT

Admitted in liver medical ICU

Fluid challenge

Ionotropic support initiated – target MAP

Antibiotics- Piperacillin tazobactum

Fluconazole

Vitamin K

IV Albumin supplementation

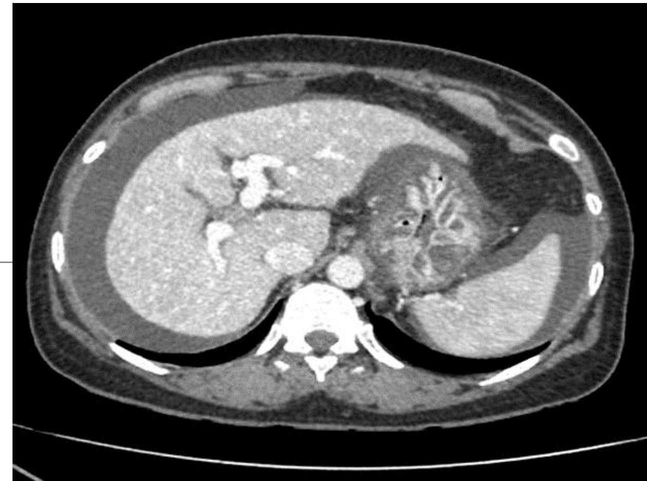
Liver supportive measures

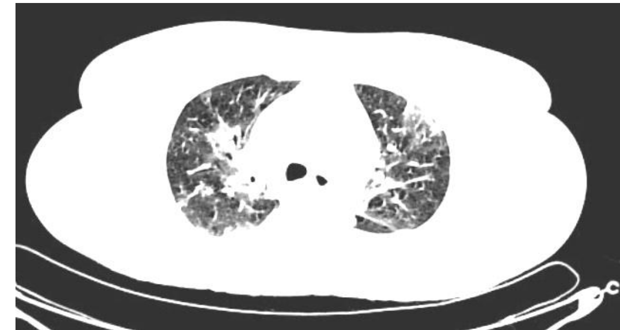
COURSE OF ILLNESS

LABS:

- SARS- CoV2- TRUENAT RT-PCR: POSITIVE
- Blood culture: GNB- Klebsiella pneumoniae
- Urine culture- Negative
- Procalcitonin- 10.38

Shifted to COVID ICU
Antibiotics escalated
Ionotropic supports- slowly weaned





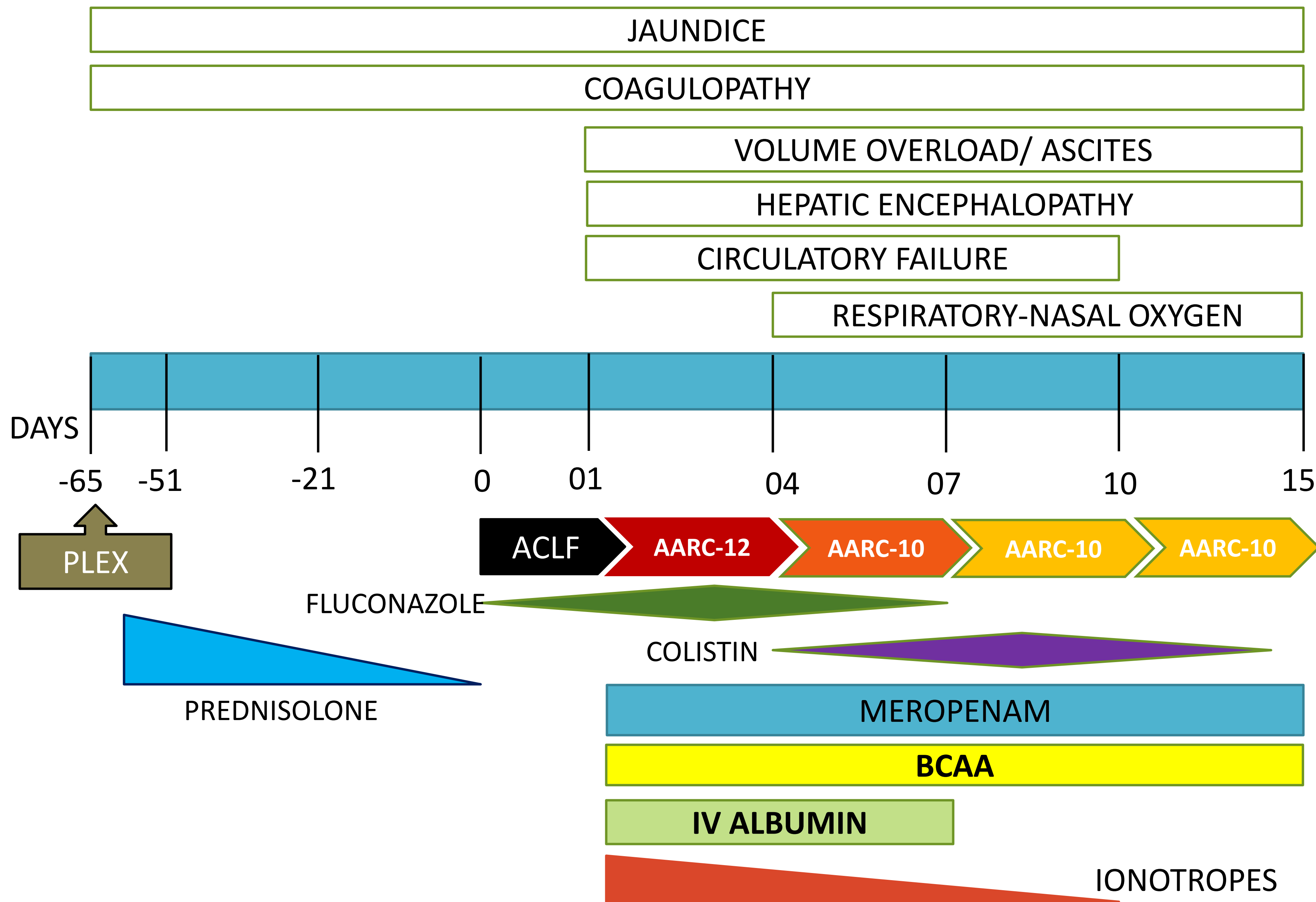
LAB PARAMETERS

Lab parameters	Day 0	Day 1	Day 4	Day 7	Day 10	Day 15
T. Bilirubin	16.4	18.0	18.3	15.7	12.4	12.5
INR	2.10	3.22	1.95	1.73	2.1	2.74
Platelet	94000	83000	29400	23400	50400	82400
Sr. Lactate	10.2	13.6	3.3	2.6	2.5	2.6
Sr. Creatinine	0.4	0.79	0.39	0.4	0.58	0.7
Sr. Albumin	2.6	2.6	2.3	2.3	2.1	2.7
AARC SCORE	9 (II)	12 (III)	10 (II)	10 (II)	9 (II)	11 (III)

ORGAN FAILURE

ORGAN FAILURE	DAY 0	DAY 1	DAY 4	DAY 7	DAY 10	Day 15
Circulation	+	+	+	+	+	-
AKI	-	+	-	-	-	-
Coagulopathy	+	+	+	+	+	+
Jaundice	+	+	+	+	+	+
Hepatic Encephalopathy	-	+ (I)	+ (I)	+ (I)	+ (II)	+ (III)
Respiration	-	-	+	+	+	+

TIMELINE



DIAGNOSIS

ACUTE ON CHRONIC LIVER FAILURE

ACUTE INSULT:

Autoimmune Hepatitis Flare

Viral- Covid

CHRONIC INSULT:

Autoimmune Hepatitis related Chronic Liver Disease

UNDERWENT LIVING DONOR LIVER TRANSPLANT & CURRENTLY ON FOLLOWUP

THANK YOU