STAFF CPC - 14.02.2024

JK 46/F, R/O Nalagarh, HP	DOA/DOD:12.07.23/ 29.07.23	CR No. 202303514868
Chairperson: Prof Sanjay Jain	Clinician in charge: Prof H S Kohli	Clinical Discussant: Dr Susheel Kumar
Pathologist: Prof Amanjit Bal	Radiologist: Dr Ujjwal Gorsi	

Presenting complaints:

- Fever off and on X two and half months
- Productive cough X two and half months
- Exertional shortness of breath X two months
- Frothuria, decreased urine output and bilateral leg swelling X two months
- Hemoptysis off and on X 10 days

HOPI:

Apparently well around two and half months back; developed fever, low grade, intermittent, no diurnal variation; Concurrently developed productive cough with mucoid expectoration; Approx. two weeks later started developing shortness of breath, progressed to class III over three weeks, h/o orthopnea present; h/o frothuria, decreased urine output and bilateral leg swelling. Associated progressive generalized weakness. Loss of appetite+.

Consulted private practitioner, was admitted from 06th to 26th June 2023. At admission, BP: 170/110 mmHg, Pulse: 104/m, RR: 28/m, SpO2: 92% on room air. Hb-6 mg/dl, Urea/Cr-176/6.2, Urine R/M: Protein: 1+, RBC: 1+, ANA-positive, P-ANCA-positive, Anti HCV-reactive. Two sessions of HD given. Received 02 units of PRBC as well. Underwent renal biopsy-Inadequate sample, only two globally sclerosed glomeruli seen. Received pulse methyl-prednioslone and 500 mg pulse of cyclophosphamide on 20.06.23 keeping possibility of ANCA associated vasculitis. Later started tab prednioslone 30 mg OD. Transient improvement in symptoms but from July onwards, developed cough with episodes of streaky hemoptysis, increasing swelling of extremities, appearance of abdominal and facial swelling.

No h/o loss of weight/chest pain/joint pain, early morning stiffness, photosensitivity, raynaud's phenomenon, oral/nasal/genital ulcers, hair loss, skin rash. No h/o proximal/distal muscle weakness, sensory disturbances, dizziness, seizures, decreased visual acuity, headache, focal neurological deficits, altered sensorium. No h/o post prandial angina, upper or lower GI bleed. No h/o nasal crusting/stuffiness, bleeding/decreased hearing/rhinorrhea/wheeze.

Past history: Hypertension X 3years, no h/o TB, DM, Asthma. **Personal History:** Exposure to biomass fuel +. **Obstetric history**: Three children, one delivered through LSCS, no abortions. **Family History:** No h/o TB, HT, DM, asthma/Similar illness.

Physical Examination: Conscious, oriented; BMI: 31 Kg/m^2; Afebrile; Pulse rate 82/minute, regular, all peripheral pulses equally palpable; BP 136/96 mmHg; Res rate 20/minute; SpO2: 96% (Room air); $pallor^+$/$icterus^-$/$cyanosis^-$/$clubbing^-$/Pedal $edema^+$; Chest: B/L air entry decreased, b/l infra-scapular, infra-axillary and mammary area creps+; CVS: S_1S_2 normal, no added sounds; P/A: soft, non-tender, no organomegaly, free fluid+, bowel sounds+; CNS: conscious, oriented, motor and sensory systems- normal, DTR- 2+, Plantar-flexor

Course & management: At admission, patient had complaints of anasarca, productive cough, SOB and hemoptysis. HRCT chest showed B/L central predominant GGOs with consolidation and bilateral pleural effusion (R>L). Hb-8.3, 2D echo revealed LVEF of 35-40 % with moderate MR and dilated LA. Managed with diuretics and other supportive management. Sputum gene expert positive for MTB (Rifampicin sensitive). ATT started in renal modified doses from 15.07.23. Sputum work up showed growth of Acinetobacter baumanii, Colistin started on 19.07.23. On 20.07.23, patient had worsening shortness of breath. No improvement in SOB with diuretics, hence started hemodialysis. Repeat HRCT chest showed bilateral central infiltrates and GGOs with peripheral sparing. Hb drop noticed from 8.2 (18.07) to 4.5 g/dl (22.07), possibility of diffuse alveolar hemorrhage considered. Supportive PRBC and platelet transfusions given. IVIG/PLEX considered but deferred. Patient developed high grade fever and hypotension requiring inotropic support on 24.07. Meropenem and Vancomycin added. Progressive worsening of hemodynamic, respiratory and neurologic parameters noted requiring increase of inotrope and ventilatory support. On 29.07, patient developed pulseless electrical activity, CPR started as per ACLS protocol, however could not be revived and was declared dead at 1.29 pm.

Unit's Final Diagnosis: Pulmonary renal syndrome (Diffuse alveolar hemorrhage with rapidly progressive renal failure): ? SLE ?? ANCA associated Vasculitis; Sepsis with multiorgan dysfunction, disseminated intravascular coagulation [Hospital acquired pneumonia (acinetobacter baumanii), Catheter associated urinary tract infection (enterococcus faecium)], Pulmonary tuberculosis: sputum gene xpert positive, Dilated cardiomyopathy, Hypertension

Cause of death: Refractory septic shock

Investigations:

Hemogram	**12.07.23**	**13.07**	**14.07**	**16.07**	**18.07**	**20.07**	**21.07**	**22.07**	**23.7**	**26.07**	**27.07**	**28.07**	**29.07**
Hb	**8.3**	**8.3**	**8.2**	**8.1**	**8.2**	**6.9**	**5.8**	**4.5**	**6.2**	**10.3**	**8.8**	**8.9**	**8.6**
TLC	7800	5400	**3900**	**3500**	**3060**	4600	**2750**	**2190**	4000	7640	7000	7300	12240
DLC	N_{87} $L_{8.4}$ $M_{3.5}$ $E_{0.6}$	N_{86} $L_{9.6}$ $M_{2.1}$ $E_{1.7}$	N_{88} $L_{6.7}$ $M_{2.2}$ $E_{1.9}$			N_{88} $L_{6.7}$ $M_{3.5}$ $E_{1.0}$					$N_{61.6}$ L_{31} $M_{6.4}$ $E_{0.1}$	$N_{65.3}$ L_{30} $M_{3.2}$ $E_{0.7}$	$N_{62.9}$ L_{33} $M_{3.3}$ $E_{0.6}$
ALC	**700**	**500**	**300**			**300**					2170	2200	4040
Platelets	**148000**	**121000**	**99000**	**95000**	**88000**	**90000**	**92000**	**101000**	**124000**	160000	165000	**129000**	**113000**
MCV/RDW	**77.2/18**	**76.7/18**				**76.4/16.5**	81/15				85.9/**18.7**		
PS	**Mild anisocytosis, microcytes present, no schistocytes, plt reduced**												

Biochemistry	**12.07.23**	**13.07**	**16.07**	**17.07**	**18.07**	**20.07**	**21.07**	**22.07**	**24.07**	**26.07**	**27.07**	**28.07**
Na/K^+	**109**/3.87	**111**/3.75	**122/3.3**	**124/3.29**	**127/3.4**		137/**3.2**	136/4.12	138/4.2	**134**/4.26	**134**/4.7	**130**/4.8
Urea/Cr	**158/5.86**	**145/5.16**	**144/5.1**	**141.8/4.8**	**127.4/5.22**	**119.8/5.35**	**39.7/2.70**	**38/2.6**	**102/4.07**	**97/3.93**	**169/5.43**	**223.6/6.24**
TP/Alb	**5.5/3.41**	**4.92/3.26**	**4.7/2.9**	**4.49/2.95**	**4.72/3.05**	**5.16/3.37**	**4.6/3.1**	**5.17/3.43**	**5.18/3.4**	**4.66/2.99**	**4.17/2.59**	**3.7/2.3**
Billirubin (T/C)	0.82/0.24	0.75/0.40	1.19/0.4	0.97/0.57	0.90/0.59	0.62/0.41	1.22/0.7	1.18/0.69	0.74/0.53	0.85/0.69	0.71/0.58	0.87/0.78
OT/PT/Alk-phosphate	36/24/81	26/41/62	18/28	17/23/59	19/21/73	**48**/17/80	**96.9**/29.8/84	**131/46**	**223/67**/116	**187/85**/104	**259/59**/100	**420/68**/72
Calcium/Po4	**7.8**/4.0	**7.39**/3.92		**7.6**/3.78	**7.9**/3.49	**8.38**/3.61	**11**/2.5	**12.29**/2.24	**11.6**/4.1	10/3.65	9.69/1.83	8.96/1.3
LDH		**416**		**391**	**391**	**444**	**423**	**513**	**516**	**522**	**576**	**694**
CRP		**25**		**42.6**		**74**	**145**	**164**	**214**	**129**	**78.7**	**87.8**
C3/C4		**62.7**/11.7		**72.2**/15	**84.4**/14.5	**74.4**/11.5	**57.9/7.4**	**57/8.2**	**52/2**	**30.9/0.6**	**28/0.5**	**32/0.7**
RBS	98	90	96									

Coagulogram	**12.07**	**17.07**	**20.07**	**23.07**	**28.07**	**29.07**
PT/APTT	10.6/25	14.6/28	14.3/**2 Min**	12.9/25	**22.4/51.9**	**24.5/42**
PTI	100	79	81	90	**52**	**47**
INR	0.91	1.26	1.23	1.1	**1.93**	**2.11**
Fibrinogen level				3.12		
D-Dimer assay				**633**		

ABG	**13.07**	**20.07**	**22.07**	**24.07**	**28.07**	**29.07**
pH	**7.38**	**7.25**	**7.29**	**7.21**	**7.34**	**7.23**
pO_2	**55.8**	**54.2**	**58.4**	118	138	124.2
pCO_2	**28.8**	**22.6**	**50.9**	**46.6**	37.3	**48.1**
HCO_3	**16.6**	**19.2**	24.1	**18.2**	**19.7**	**16.8**
O_2 Sat	**89**	**86**	**87**	97.8	98.6	98
Lactate				1.45	1.58	2.4
	RA	RA	IPPV	IPPV	IPPV	IPPV

ECG: Low voltage complex**,** Sinus Tachycardia, VR:104/min, Incomplete LBBB
Urine R/M: Protein (12.07): 2+; Protein (14.07): 2+, blood 3+ ; protein (24.07): 2+, blood 3+
Urine 24 hours protein (14.07):705.6 mg/day, **Creatinine**: 299.25mg/day
Urine osmolality (14.07): 202 mOsm/kg
Urine spot Na+(15.07): 37.8, **Serum osmolality** (14.07): 269 mOsm/kg
Seum procalcitonin:0.433(13.07); 2.63 (21.07), 11.3ng/ml (24.07); **T3/T4/TSH**: 0.587/7.26/2.94
Vitamin D: 4.44ng/ml; iPTH: 267; HbA1c: 5.1%; **Pro B-type Natriuretic peptide:** 134180 pg/ml
Serum iron study: Serum iron: 57 µg/dl, TIBC: 177.5, % sat: 32.2%, ferritin: 828
Microbiology: Blood c/s (13, 21, 24, 29.07): Sterile; Sputum culture (14.07): Sterile; **Sputum culture** (17.07): Acinetobacter Baumani intermediate sensitivity to colistin; ET aspirate culture (24.07): Sterile; Sputum AFB smear (14,15,18.07): negative; **Sputum Gene-Xpert** (15.07)- MTB detected, Rifampicin sensitive; **Urine C/S** (24.07): Enterococcus fecium sensitive to linezolid, vancomycin, teicoplanin; GM index (26.07): 0.23, β D glucan (27.07): 38
Immunological workup: ANA (IIF): 2+, discrete nuclear dots, multiple; Anti dsDNA: Report not available; PR-3 & MPO ANCA: negative; Anti GBM- Negative; Serum protein electrophoresis (13.07): normal pattern; Hbs Ag: non-reactive, **Anti HCV**: Borderline positive; HCV RNA Viral load: report not available, HIV: Non-reactive
Radiology: Chest X-ray (12.07): Bilateral perihilar infiltrates, CP angle blunting; HRCT Chest: to be discussed; **USG abdomen** (14.07): Liver and spleen-normal, RK: 9cm, LK: 10.6cm, B/L raised cortical echogenicity and CMD lost, b/l pleural effusion 2.6 cm and 1.2 cm on Rt. And Lt. respectively, moderate ascites; **2D Echocardiography** (15.07): LVEF of 35-40 % with moderate MR, dilated LA, No pe/veg.