CityWide Conference

Division of Infectious Diseases
Thomas Jefferson University Hospital
February 26, 2019
Kumar Priyank, MD
60’s yr old Caucasian male with SOB and orthopnea (difficulty breathing”) and fatigue since 6 months
History and Presentation

HPC:
- hospital admission ~ 3 months back, mechanical fall
- associated confusion
- investigations → R sided pleural effusion → thoracentesis → symptomatic improvement
History and Presentation

- confusion from hepatic encephalopathy (known cirrhosis)
- since discharge was having episodic SOB
- 3 further therapeutic thoracenteses as outpatient
- present admission (2/2019) for another thoracentesis and
  further investigations
- b/l leg swelling and poor memory
History and Presentation

PMHx: HCV cirrhosis (MELD 20) s/p Ledipasvir/Sofosbuvir (Harvoni) Rx ~ 6 months back, was successful
- CKD stage 4 secondary to diabetic nephropathy
- on dual (liver + kidney) transplant list
- DM2 (A1c 6.5), obesity, OSA, essential HTN, TIA, MGUS
- L total hip replacement
History and Presentation

Pertinent medications:
- Bumetanide 2 mg BID
- Spironolactone 12.5 mg daily
- Ciprofloxacin 250 mg BID (prophylaxis)
- Irbesartan 150 mg BID
- Lactulose 30 g TID
- Insulin 20 U BID

ROS:
- no CP
- no fever/chills
- no cough, night sweats, significant weight loss
- no HA, meningismus
- no bowel or bladder disturbance
History and Presentation

SH: born and raised in Puerto Rico; first moved to Brooklyn, NY in his 20s
- separated from his wife, currently lives alone
- remote alcohol use, ex-smoker since 10 years (1 pack/week);
  crack cocaine in remote past
- not sexually active since many years, previously had multiple sexual partners with unprotected intercourse, no h/o STDs
- no sick contacts
History and Presentation

FH: non-contributory

Results of prior w/u -

Pleural fluid: exudative by both Light’s criteria, cytology neg

Ascitic fluid: high SAAG

MRI abd 11/2018 - cirrhosis with portal HTN, no lymphadenopathy

HIV screen 2016 and 1/31 - neg
<table>
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<tr>
<th>Date</th>
<th>RBC</th>
<th>WBC</th>
<th>Lymph</th>
<th>Macrophage</th>
<th>Routine</th>
<th>Comments</th>
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<td>11/2018</td>
<td>439</td>
<td>27000</td>
<td>75%</td>
<td></td>
<td>many wbc, no org, neg cx</td>
<td>AFB stain neg, Cx neg, ADA 5.9 MTB Quant 11/4: neg</td>
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<td>11/2018</td>
<td>4000</td>
<td>1197</td>
<td>26%</td>
<td>54%</td>
<td>mod wbc, no org, neg cx</td>
<td>TB PCR neg, ADA 16 (&lt;9.2)</td>
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<tr>
<td>12/2018</td>
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<td>286</td>
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<td>32%</td>
<td>few wbc, no org, neg cx</td>
<td>AFB stain and Cx neg, ADA 6</td>
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<tr>
<td>1/2019</td>
<td>288</td>
<td>375</td>
<td>32%</td>
<td>65%</td>
<td>few wbc, no org, neg cx</td>
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Audience Questions
Examination

Vitals: afebrile, 65, 150/76, 16/min, 98% RA
Gen: obese, oriented x 3, not in any distress
CVS: RRR, no murmurs, 2+ b/l pitting pedal edema
RS: decreased breath sounds R lung base
PA: abdomen distended, no tenderness
Lymph: no lymphadenopathy
Skin: no rashes
CNS: no focal deficits
Labs and imaging 2/2019

- WBC 7.2 (N 68%), Hb 8.5, plt 110 (at baseline)
- NA 137, K 4.9, CO2 17, BUN 47, Cr 3.5 (baseline 2.5)
- LFT 25/18/103/0.2/7.1/3
- US abd: cirrhosis with portal HTN and ascites, large right pleural effusion
Differential Diagnosis Discussion
Further Labs

- Pleural fluid fungal cx 12/12 (result 1/16) - VL growth Cryptococcus neoformans/gattii
- Pleural fluid 1/31 - fungal stain and Cx neg
  Serum CRAG 1/31 - reactive, titer 1:40
  fungal BCx 2/5 - NGTD
- worked in Puerto Rico most of his adult life as a carer/cleaner on a farm raising fighting roosters, in later life as an elevator man in the US
Management Discussion
CNS Disease?

- 2/6 LP with opening pressure 27, clear, normal protein and glucose, 0 WBC, CSF CRAG neg, fungal stain and Cx neg
- MRI brain: normal
- discharged on Fluconazole 200mg QD PO (renal dosing)
Cryptococcal Pleural Effusion

- cryptococcal pleural infection is rare with about 50 cases reported
- tends to occur in immunocompromised individuals
- can be misdiagnosed as TB
- cirrhosis and DM are known risk factors in non HIV patients for cryptococcal infection
- with improvement in immunity, IRIS can sometimes make latent disease apparent
IDSA Mx Guidelines
(Nonmeningeal Cryptococcosis)

Pulmonary (immunosuppressed)
- CNS disease should be ruled out with LP
(dose and duration of induction treatment changes and need for ICP monitoring)
- PNA with CNS or documented dissemination and/or severe pneumonia (ARDS) is treated like CNS disease
- May use corticosteroid Rx if ARDS/IRIS
- mild-to-moderate symptoms, absence of diffuse pulmonary infiltrates, absence of severe immunosuppression, and neg results of a diagnostic evaluation for dissemination, use fluconazole (400 mg [6 mg/kg] per day orally) for 6-12 months
Pulmonary (nonimmunosuppressed)
- mild-to-moderate symptoms: fluconazole (400 mg PO) for 6–12 months
- severe disease, treat similarly to CNS disease
- for normal hosts with asymptomatic pulmonary nodule or infiltrate, no CNS symptoms, and neg/ very low serum cryptococcal antigen, LP can be avoided
Nonmeningeal, nonpulmonary cryptococcosis

- For cryptococcemia /dissemination (at least 2 noncontiguous sites or evidence of high fungal burden CRAG $\geq 1:512$), treat as CNS disease

- If CNS disease is ruled out, fungemia is not present, infection occurs at single site, and there are no immunosuppressive risk factors, consider fluconazole (400 mg [6 mg/kg] PO daily) for 6-12 months