To Be SBP or To Not Be SBP

Ellen Clark PGY-1, Grant Coan PGY-2, Sarah Diamond MD

Oregon Health & Science University, Portland, OR

OHSU

VA U.S. Department of Veterans Affairs
Veterans Health Administration
VA Portland Health Care System

Reason for Admission

Concern For SBP, Asymptomatic

History of Present Illness

39-year-old male with history of mixed alcoholic and NASH cirrhosis (c/b HE, recurrent LVPs), alcohol use disorder (hx w/d), HTN, GAD, and OSA who was directly admitted for management of possible SBP following results of his outpatient LVP.

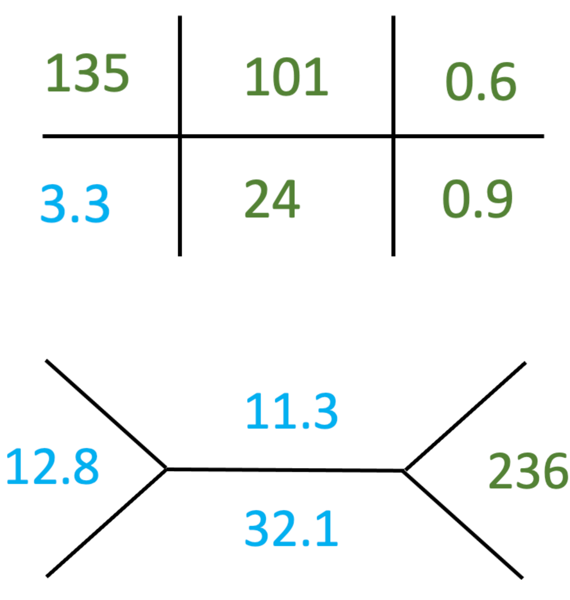
-Dx cirrhosis 2019 following U/S + MRI elastogram
-Possible SBP in past and has been on prophylaxis
-no alcohol, tobacco, illicit drug use
-prior heavy alcohol use in 20s (1pint/day), quit following admission 5 months ago
-completely asymptomatic, no recent events

Prior Hospital Course

- 3/22-5/22 OSH admission: severe alcohol w/d, HE, AHRF due to MSSA LLL pneumonia and sepsis requiring intubation
  - -LVPs without SBP
  - -EtOH abstinence & losing weight since admission
  - -No SBP prophylaxis
- Requiring outpatient LVPs every 2 weeks
- 4 brief admits with c/f SBP following LVP all with neutrophil predominant ascitic fluid and (-) cultures:
  - Late May: initiated Cipro 500mg daily for ppx
  - Mid June: Cytology (-), AFB (-)
    -Cefdinir 300mg QD x 10 days → cipro
  - Late June: Continued cipro per ID
  - Early July
- Liver Panel downtrending overall
- Spacing outpatient LVPs to every 3 to 4 weeks
- Asymptomatic
- Adherent with all medications
- Continued EtOH abstinence

Pertinent Labs

- VSS, BMI 23
- Physical Exam Unremarkable
- Liver Panel:
  - -AST 50/ ALT 21
  - -Alk phos 103
  - -GGT normal
  - -Tbili 1.4
  - -Albumin 3.5
- INR 1.54, PT 18.2
- LVP on Admission:
  - -1100 WBCs
  - -584 PMNs
  - -Glucose same as serum (110s)
  - -Negative Bacterial Culture
  - -Negative Fungal Culture
- Recent CT triple phase (06/22): cirrhosis and portal HTN without HCC, also with splenomegaly, moderate ascites, mild gallbladder edema (likely reactive)



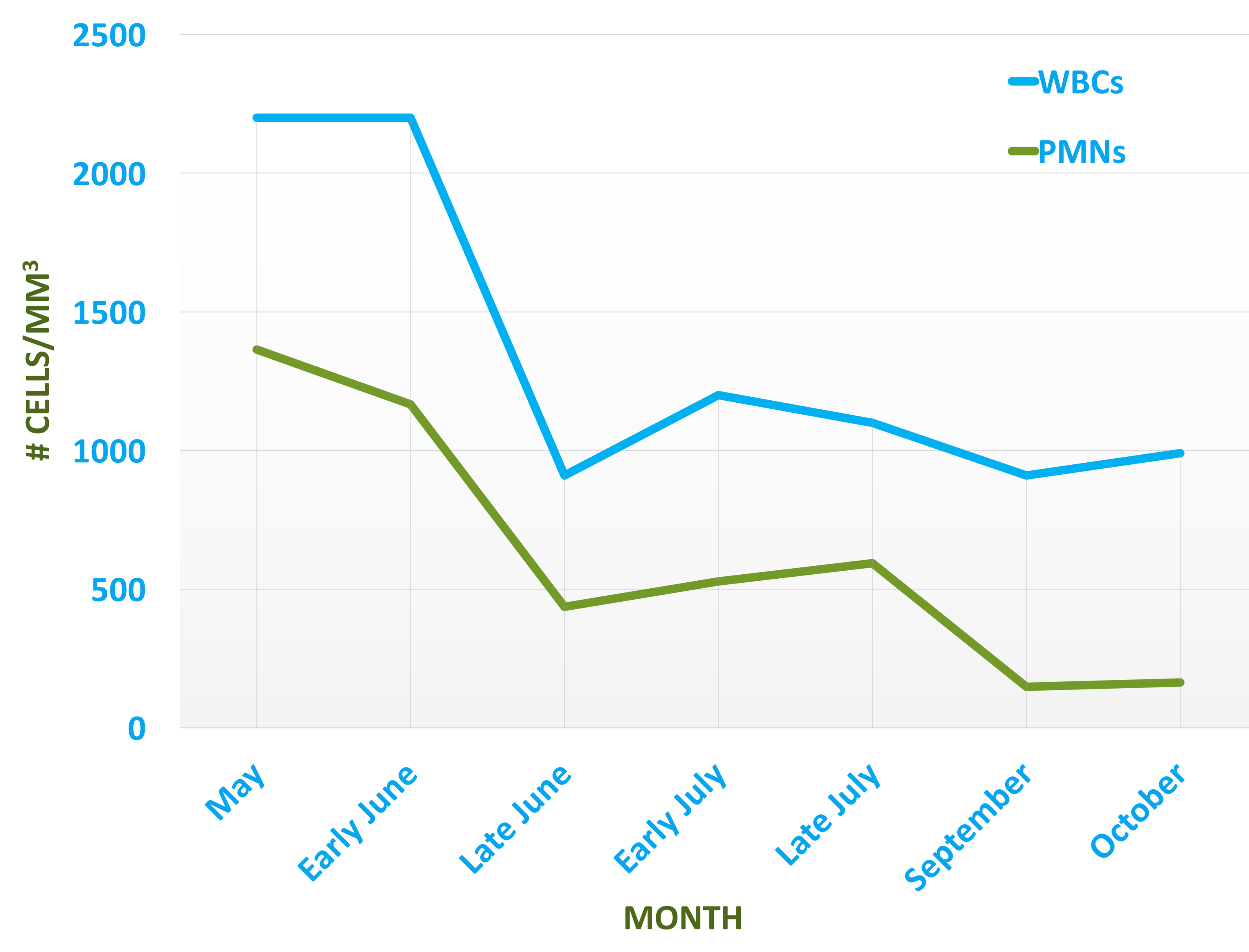


Figure 1: LVP Result Trend Over 6 Months: WBC and PMN count (corrected for RBCs) from admissions May through July as well as outpatient LVPs in September and October.

Clinical Course

- Given 2g CTX
- Hepatology consulted:
  - -Overall down trending WBC, asymptomatic
  - -Improving LVP over time
  - -No prior + ascitic cultures and treated with multiple antibiotics
  - -Suspected non-infectious culture negative neutrocytic ascites (CNNA)
  - -Query no prior SBP, ppx antibiotics discontinued
- Remained asymptomatic and discharged home
- Close outpatient follow up
  - -Source of CNNA remains unclear
- Additional 2 outpatient LVPs since admission with overall downtrending WBC (Figure 1)

Discussion

- CNNA: variant of SBP that presents similarly
- Limited literature, thought to have lower mortality rate
- PMNs in CNNA are expected to have clear source
- Those that can mimic SBP:
  - **-TB peritonitis** (negative AFB stain in past)
  - **-Malignancy-related ascites** (HCC ruled out)
  - **-Any process leading to cell death** (although PMNS usually not predominant)

Clinical Pearls

- Unique Case of non-infectious CNNA with unclear etiology
- Valuable lesson in approach to management of possible SBP
- Weigh benefit / risk of foregoing treatment of possible SBP to admission + antibiotic treatment

References

- Antillon MR, Runyon BA. Effect of marked peripheral leukocytosis on the leukocyte count in ascites. Arch Intern Med. 1991 Mar;151(3):509-10. doi: 10.1001/archinte.151.3.509. PMID: 2001133.
- Hillebrand DJ, Runyon BA, Yasmineh WG, Rynders GP. Ascitic fluid adenosine deaminase insensitivity in detecting tuberculous peritonitis in the United States. Hepatology. 1996 Dec;24(6):1408-12. doi: 10.1002/hep.510240617. PMID: 8938171.
- McHutchison JG, Runyon BA. Spontaneous bacterial peritonitis. In: Gastrointestinal and Hepatic Infections, Surawicz CM, Owen RL (Eds), WB Saunders, Philadelphia 1994. p.455.
- Runyon BA, Hoefs JC. Culture-negative neutrocytic ascites: a variant of spontaneous bacterial peritonitis. Hepatology. 1984 Nov-Dec;4(6):1209-11. doi: 10.1002/hep.1840040619. PMID: 6500513.
- Runyon BA, Hoefs JC, Morgan TR. Ascitic fluid analysis in malignancy-related ascites. Hepatology. 1988 Sep-Oct;8(5):1104-9. doi: 10.1002/hep.1840080521. PMID: 3417231.