

Case Report

Influenza B Infection Causing Acute Hepatitis, Anemia and Thrombocytopenia

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Case Presentation

A 57-year-old Black female became sick with flu like symptoms with general weakness, muscles ache; pain in lower back, legs, shoulders with headaches, and low-grade fever 3 weeks before presenting to the emergency room on February 15, 2016 extremely. Patient works as a transporter of patients at a hospital.

At the ER she was very weak, had a temperature of 102.5 F, Pulse 114, Blood pressure of 107/87, respiratory rate of 22 and O2 SAT of 100% room air. Physical examination was remarkable for a diffuse erythematous rash, HEENT was remarkable for 1+ scleral icterus, lungs were clear, cardiac examination was remarkable only for a heart rate 114 per minutes abdominal examination was negative, neurological examination was negative and patient remained alert and oriented all time, extremities were negative. Recto-pelvic examinations refused by patient.

An IV fluid of D5/normal saline was started at 125cc per hour. CBC with diff, complete metabolic profile, urinalysis, urine culture, blood culture x2, PT, UNR. PTT, blood for Influenza A&B antibodies were sent to the lab, VDRL Lyme disease, monospot, CMV, Rickettsia antibodies, Rocky Mountain Spotted fever antibodies, Coxsackie antibodies, Dengue fever antibodies, VDRL, HIV 1 & 2, Malarial smear, Babesia, hepatitis A, B, C, D and E were done [1,2].

Chest ray, Abdominal CT, Abdominal ultrasound, CT angio, Ultrasound of the legs, Brain MRI and EKG were done.

The patient was admitted to the hospital. In the hospital, she was empirically started on Doxycycline 100mg PO BID and hydrocortisone cream QID for the skin rash, Tylenol 650mg Q4h PRN for fever. On the fourth hospital 2/19/16, her HCT dropped to 23.9% and platelets count dropped to 17,000 and her eosinophil went up to 27%. She was transfused with 2 units of packed red blood cells and 1 unit of platelets [3].

In addition, she was treated with Venofer 100mg IV daily and Procrit 10,000 units SC daily. She was also given Folic acid 1mg IV BID because her HGB electrophoresis shows Sickle cell trait SA.

On 2/28/16 her WBC went up to 17.300 and her LFTs were very high.

Abstract

An interesting case of Influenza B infection with acute viral hepatitis, diffuse skin rash, fever, leukocytosis, eosinophilia, anemia, thrombocytopenia and very high liver function tests.

Keywords: Influenza B infection; Acute hepatitis; Fever; Anemia; Thrombocytopenia

Her Influenza B IGM < 1:10.

Her Influenza B IgG came back 1: 640, indicating that her viral illness was due to Influenza B.

The viral syndrome she experienced three weeks before admission was the result of Influenza B, which resulted in the high Influenza B IgG of 1: 640 [4,5].

Influenza A PCR is negative.

The Abnormal Blood Tests Results Found Include

Markedly elevated LFTs,

Severe anemia,

Severe Thrombocytopenia,

Very high eosinophil level,

Sickle cell trait SA (not known to the patient before),

High PT/INR,

Factor VII deficiency (not known to the patient before),

Influenza B IgG 1:640.

The patient got better and went home on 2/23/16 with a WBC of 10.600 and an HCT of 32.4%, Platelets count of 83,000 and LFTs that were almost back to normal. The skin rash much improved and overall clinically much improved.

See tables for hospital course and lab tests results: (Table 1,2,3,4,5,6,7)

Patient was seen in the office on 3/2/16 she was feeling much better and her physical examination was completely normal. She is almost back to normal except for lingering weakness (Table 8).

Conclusion

This is the first case of Influenza B infection that I am aware of that causes RBC suppression, thrombocytopenia, severe eosinophilia and skin rash in a patient with sickle cell trait and factor VII deficiency. The gradual drop in her HGB to 8.5grams, HCT of 23.9%

Table 1: Vital signs.

	2/15/2016	2/16/16	2/17/16	2/18/16	2/19/16	2/20/16	2/21/16	2/22/16	2/23/16
Temperature	102.5 H	97.5	101.6	99.0	100.1	99.3	98.4	98.6	97.6
Pulse	114 H	78	98	97	118 H	96	92	85	83
Respiratory Rate	22	17	20	18	18	17	18	18	18
Blood Pressure	107/87(94)	104/64(77)	99/60(73)	107/67(80)	149/83(105) H	128/80(96)	123/77(92)	127/81(96)	143/87(105) H
Pulse Oximetry	100	96	97	98	96	99	100	98	99

All O₂ saturations were done at Room air.

All temperature thermometers were done using Fahrenheit.

Table 2: Hematology lab results.

	2/15/16	2/16/16	2/17/16	2/18/16	2/19/16	2/20/16	2/21/16	2/22/16	2/23/16
WBC	10.9 H	15.0 H	16.9 H	17.2 H	16.7 H	15.6 H	12.6 H	10.5 H	10.6 H
RBC	4.02	3.57 L	3.52 L	3.52 L	3.09 L	3.22 L	3.64 L	3.70 L	3.86
Hgb	11.2 L	9.9 L	9.8 L	9.8 L	8.5 L	9.1 L	10.3 L	10.4 L	11.0 L
Hct	32.2 L	27.7 L	28.3 L	28.7 L	23.9 *L	25.5 L	29.5 L	29.7 L	32.4 L
MCV	80.1	77.6 L	80.4	81.5	77.3 L	79.2 L	81.0	80.3	83.9
MCH	27.9	27.7	27.8	27.8	27.5	28.3	28.3	28.1	28.5
MCHC	34.8	35.7	34.6	34.1	35.6	35.7	34.9	35.0	34.0
RDW	13.2	12.3	13.5	13.9	13.1	13.5	14.1	14.2	15.5 H
Pit Count	164	135 L		28 *L	17 *L	42 *L	44 *L	69 L	83 L
MPV	11.8	12.3		12.6	14.2 H	14.3 H	13.7 H	12.6	12.8
Total Counted		100	100	100	100	100	100	100	100
Seg Neutrophils%		54	56	43	51	51	68	61	56
Band Neutrophils%		30 H	13 H	17 H	15 H	11 H	1	2	5
Lymphocytes%		7 L	10 L	6 L	10 L	10 L	14 L	9 L	13 L
Atypical Lymphs%		2	4 H	1	1	1	1		
Monocytes%		4	4	5	3	5	5	8	9
Eosinophils%		2	10 H	27 H	19 H	21 H	12 H	20 H	16 H
Basophils%									
Myelocytes%		1 H	2 H	2 H	1H				
Reticulocytes count		1.09							
Hemoglobin A		55.7 L							
Hemoglobin A2		2.5							
Hemoglobin F Percent		0.5							
Hemoglobin S		41.2 H							
Vitamin B12	1437 H								
Folate	>24.0								
Ferritin	1160.0 H								
ESR	51								
Urine Analysis	Normal								
Blood Cultures	Negative								
Urine Culture	Negative								

and platelets count of 17,000, and reticulocytes count of 1.09 % are evidence of acute and transient inability of the bone marrow to produce adequate red blood cells and platelets, requiring transfusion of blood and platelets. The HCT gradually dropped from 32.2% on admission to 23.9% and the platelets dropped from 164,000 to 17,000. The very LFTs are clear evidence of acute inflammation of the liver

(hepatitis). The fact her serum albumin was a bit low is a reflection of the fact the patient had been sick for three weeks prior to admission to the hospital and had not been eating well, and does not preclude the evidence of acute hepatitis due to the viral infection. Abdominal ultrasound and CT of the abdomen were both normal, ruling out both gall bladder and pancreatic diseases that explained otherwise

Table 3: Blood chemistry lab results.

	2/15/16	2/16/16	2/17/16	2/18/16	2/19/16	2/20/16	2/21/16	2/22/16	2/23/16
Sodium	127 L	133 L	135 L	135 L	137	138	138	139	137
Potassium	3.6	3.6	3.3 L	3.4 L	3.6	4.0	4.4	4.0	4.0
Chloride	91 L	98	100	101	105	104	102	103	101
Carbon Dioxide	27	28	28	27	27	30 H	31 H	30 H	28
Anion Gap	13	10	11	10	8	8	10	10	12
BUN	12	14	8	6	5 L	5 L	6	7	8
Creatinine	1.2 H	0.9	0.8	0.9	0.8	0.7	0.7	0.7	0.7
BUN/Creatinine Ratio	9.8	15.2	9.5	7.0	6.6	7.1	8.7	10.1	10.8
Random Glucose	102	159 H	81	106	109 H	102	108 H	100	101
Calcium	7.8 L	8.1 L	7.4 L	7.6 L	7.7 L	8.1 L	8.2 L	8.4	8.6
Total Bilirubin	3.8 H	2.3 H	1.4 H	1.5 H	1.3 H	1.3 H	1.3 H	1.3 H	1.2
AST	259 H	155 H	102 H	115 H	69 H	79 H	58 H	39	28
ALT	223 H	201 H	161 H	153 H	117 H	117 H	100 H	80 H	64 H
Alkiline Phosphate	244 H	225 H	195 H	186 H	183 H	194 H	189 H	183 H	191 H
Troponin	0.01								
B-Natriuretic Peptide	12.5								
Total Protein	7.0	6.7	5.6	5.8	5.7	6.2	6.6	6.6	7.1
Albumin	3.3 L	3.2 L	2.8 L	2.7 L	2.7 L	2.8 L	3.0 L	3.0 L	3.2 L
Albumin/Globulin Ratio	0.9 L	0.9 L	1.0	0.9 L	0.9 L	0.8 L	0.8 L	0.8 L	0.8 L

Table 4: Lipid profile, vitamin D and TSH.

	2/15/16
Triglycerides	192 H
Cholesterol	172
LDL Cholesterol Direct	108
VLDL Cholesterol, Calc	38
Total HDL Cholesterol	24 L
Cholesterol/HDL Ratio	7.3 H
Amylase	52
Lipase	54 H
Vitamin D 25-Hydroxy	48.4
TSH	1683

Table 5: Immunology and ANA.

	2/18/16
Albumin %	40.6 L
Albumin (PEP)	2.4 L
Albumin/Globulin Ratio	0.7 L
Alpha-1-Globulins	0.4
Alpha-1-Globulins (%)	6.4 H
Alpha-2-Globulins	0.8
Alpha-2-Globulins(%)	12.9
Beta Globulins	0.7
Beta Globulins (%)	11.5
Gamma Globulins	1.7 H
Gamma Globulins(%)	28.6 H
IgG	1390
IgA	479 H
IgM	238 H
AgD	<1
ANA Screen	NEGATIVE

Table 6: Special lab tests.

	2/15/16
Hepatitis A B C D	Negative
Monospot	Negative
CMV Virus Blood Test	Negative
VDRL	Negative
Stool Culture	Negative
Stool for Ova and Parasites	Negative
Lime Disease Screen	Negative
Coxsackie Virus Antibodies	Negative
Rocky Mountain Spotted Fever	Negative
Influenza A PCR	Negative
RSV Antigen	Negative
Malarial Blood Smear	Negative
Babesia Blood Smear	Negative
HIV I and II	Negative
Dengue Virus Antibody	Negative
Strongyloides Antibody	Negative
Rickettsial Antibodies	Negative
Influenza A Antibody	Negative
Influenza B IgM	<1:10
Influenza B IgG	1:640
Typhus Fever IgG Titer	Negative
Typhus Fever IgG Ab	Negative
Typhus Fever IgM Titer	Negative
Typhus Fever IgM Ab	Negative
Floctometry	Shows No evidence of Hematological Malegnancies

Table 7: X-rays and EKG.

	2/15/16
Chest X Ray	Negative
Abdominal CAT Scan	Negative
CT Angio	Negative
Ultrasound of the Legs	Negative
Abdominal Ultrasound	Negative
EKG	Negative

Table 8: Post Discharge Blood Test Results.

	3/2/16
WBC	5.3
RBC	4.72
HGB	13.6
HCT	40.4
MCV	85.6
MCH	28.8
MCHC	33.7
RDW	15.7
PLT	132
MPV	11.5
SEGS	61
LYMPHS	24
ATYP LYMPHS	1
MONOS	6
EOS	7
BASOS	1
GLU	92
NA	139
K	3.7
CL	100
CO ₂	32
AGAP	10
BUN	16
CRET	0.9
BCR	17.0
CA	9.6
TP	8.5
ALB	3.9
AG	0.8
TBIL	1.1
ALKP	156
ALT	25
AST	29

Patient was seen in the office on 3/2/16 she was feeling much better and her physical examination was completely normal. She is almost back to normal except for lingering weakness.

explain the very high LFTs. Note that 1 week after discharge from the hospital on 3/2/16 the patient serum albumin returned to normal at 3.9, confirming the fact it was malnutrition that caused the low serum albumin that was present on admission to the hospital. Sometimes in cases of acute illness such as what this patient presented with can also cause serum albumin.

Flow cytometry using peripheral blood rules out Hematological malignancy. Bone marrow aspiration and biopsy were not done because the risk of bleeding was too high.

References

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