Using Deep Machine Learning to Cross Analyze Patient Health Data

Patient Information:
- Name: Confidential
- Gender: Male
- Age: 24 years
- Medical Record Number: Not provided
- Date of Sampling: 13-05-2023
- Doctors in Charge: dr. Maria Ratna Listyani G, Sp.PK,dr. Lady Adelaida GP

Data Sources:

- Whoop Data
- Blood Draw/Biomarkers
- Subjective Input
- Oura Ring

Medical Disclaimer:

The information contained in this document is for informational purposes only and is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of a qualified healthcare provider with any questions you may have regarding a medical condition or treatment options. Never disregard professional medical advice or delay in seeking it because of something you have read in this document. Reliance on any information provided herein is solely at your own risk.

Initial Review

1. SGOT: 165 U/L (Reference: 0 - 50 U/L)
2. SGPT: 395 U/L (Reference: 0 - 50 U/L)
3. Creatinine: 0.69 mg/dl (Reference: 0.67 - 1.17 mg/dl)
4. Amilase Pankreatic: Not Yet (Reference: 8 - 51 U/L)

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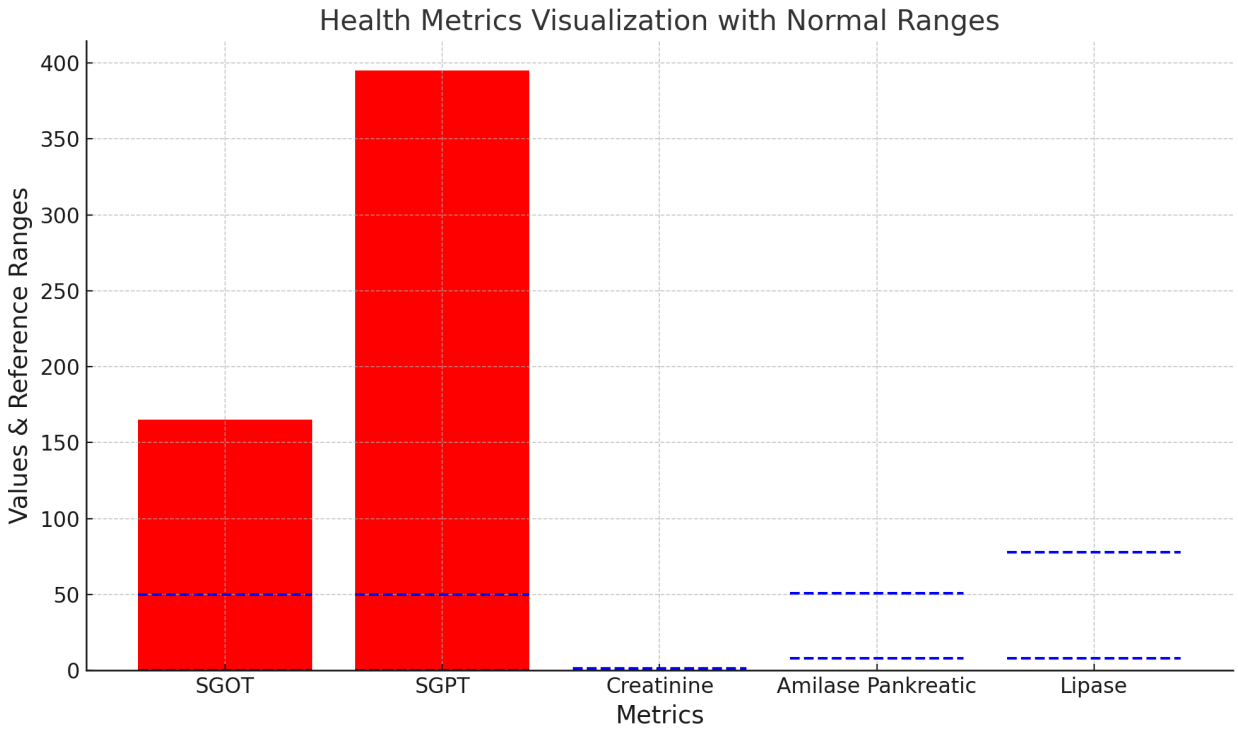
5. Lipase: Not Yet (Reference: 8.0 - 78.0 U/L)



From the above results, SGOT and SGPT are significantly elevated. Let's discuss these results:

1. SGOT (AST) & SGPT (ALT):

- These enzymes are commonly found in the liver, and their elevated levels typically suggest liver damage or inflammation.

Possible causes:

- Hepatitis (viral or alcoholic)
- Fatty liver disease
- Medications toxic to the liver
- Cirrhosis
- Liver tumors
- Other liver diseases.

2. Creatinine:

- This is a waste product from the normal breakdown of muscle tissue. Elevated levels can indicate a kidney problem, but this result is within the normal range.

3. Amilase Pancreatic & Lipase:
- Both are enzymes produced by the pancreas. Elevated levels can suggest pancreatitis, but these results are marked as "Not Yet," which may mean the results are not yet available or the test wasn't performed. (***Update: Later these returned normal***)

For a conclusive diagnosis, it's essential to consult with a healthcare professional who can consider the full clinical context, including other test results, patient history, and clinical presentation.

Clinical Findings:

1. Liver Enzymes:
- SGOT (AST): 165 U/L (Reference: 0 - 50 U/L)
- SGPT (ALT): 395 U/L (Reference: 0 - 50 U/L)

2. Hematology:

- WBC: **Significantly elevated,** suggesting an active immune response.

- Lymphocyte Count & Percentage: **Elevated**, which can be indicative of viral infections.

- Neutrophil Count: **Elevated**, commonly seen in bacterial infections, inflammation, or other conditions.

- Eosinophil Count: **Elevated**, which can be suggestive of allergic reactions or parasitic infections.

- Basophil Count: **Slightly elevated**.

Potential Diagnoses & Correlations:

- Viral Hepatitis: Elevated liver enzymes and increased lymphocyte percentages can be indicative of viral hepatitis.

- Mononucleosis: A potential differential given the elevation in liver enzymes and lymphocytosis.

- Drug-Induced Liver Injury: A consideration if the patient has been exposed to new medications or substances.

- Autoimmune Hepatitis: Elevated liver enzymes can be a sign, but specific CBC changes are not typically indicative of this condition alone.

Recommendations for Further Investigations:

1. Viral Serologies: Hepatitis Panel, Epstein-Barr Virus (EBV) and Cytomegalovirus (CMV) Serologies.

2. Liver Imaging: Abdominal Ultrasound, potentially followed by CT or MRI.

3. Liver Function Tests: Including Albumin, Bilirubin, Alkaline Phosphatase (ALP), and Gamma-glutamyl Transferase (GGT).

4. Autoimmune Workup: If autoimmune hepatitis is suspected.

5. Metabolic Workup: Tests to rule out conditions like hemochromatosis or alpha-1 antitrypsin deficiency.

6. Toxicology: Especially if there's a suspicion of substance or medication-related liver injury.

7. Evaluation for Other Infections: Depending on patient's travel history and exposure.

8. Additional CBC Workup: A peripheral blood smear can provide more insights.

9. Liver Biopsy: If the diagnosis remains unclear after other investigations.

10. Evaluation for Allergies or Hypersensitivity: If eosinophilia is significant.

11. Lipid Panel: To assess potential metabolic disorders.

Conclusion:

The patient presents with elevated liver enzymes and changes in the complete blood count, which suggests a pattern leaning towards a viral etiology, potentially viral hepatitis or mononucleosis. A comprehensive workup is recommended to narrow down the diagnosis and provide appropriate care.

This summary is based on the provided data and should be reviewed and interpreted in the context of the patient's clinical presentation, history, and other investigations. Consultation with a healthcare professional is essential for accurate diagnosis and management.

Patient has been advised to seek immediate ER attention.
To ensure an accurate diagnosis, it is crucial to seek advice from a licensed healthcare professional who can evaluate the complete clinical context, including other test outcomes,

patient medical history, and clinical symptoms.