Spur cell anemia is a type of acquired, nonimmune hemolytic anemia that occurs in chronic liver disease. It is characterized by an increased number of acanthocytes (spur cells) on the peripheral smear. The first description of spur cell anemia was in 1964 by Dr. Leslie Zieve in 1958, who described the condition as the triad of transient alcohol-related hemolytic anemia, jaundice, and cholestasis. It is considered by some to be a subtype of spur cell anemia; the defect is extrinsic to the red cell. Transient alcohol-related hemolytic anemia was first described in 1964. The following excerpt constitutes the entire Introduction.

**Spur Cell Anemia**

**Clinical Pearls**

- The red cells have a spiculated cell contour.
- The spur cells demonstrate increased rigidity and decreased deformability, leading to their entrapment and destruction in the spleen.
- Spur cell anemia is a type of acquired, nonimmune hemolytic anemia that occurs in chronic liver disease.
- It is characterized by an increased number of acanthocytes (spur cells) on the peripheral smear.
- The first description of spur cell anemia was in 1964 by Dr. Leslie Zieve in 1958, who described the condition as the triad of transient alcohol-related hemolytic anemia, jaundice, and cholestasis.
- It is considered by some to be a subtype of spur cell anemia; the defect is extrinsic to the red cell.

**Symptoms**

- Fatigue
- Palpitations
- Headache
- Shortness of breath
- Palmar erythema
- Spider nevi
- Itchy skin
- Loss of appetite
- Confusion
- Abdominal fullness
- Jaundice

**Laboratory Findings**

- Elevated reticulocyte count
- Leukopenia from liver disease
- Thrombocytopenia from liver disease
- Anemia, often macrocytic
- Increased LDH
- Increased AST
- High haptoglobin
- Low LDH
- Low total protein

**Differential Diagnosis**

- Acquired Coombs-negative nonimmune hemolytic anemia
- Acquired immune hemolytic anemia
- Paroxysmal cold hemoglobinuria
- Hereditary spherocytosis
- Warm autoimmune hemolytic anemia
- Acute intermittent porphyria
- Primary hereditary spherocytosis
- Icterus gravis neonatorum
- Aplastic anemia
- Drug-induced hemolytic anemia
- TTP

**Diagnosis**

- **Hematology Lab:**
  - Elevated reticulocyte count
  - Leukopenia from liver disease
  - Thrombocytopenia from liver disease

- **Liver Disease:**
  - Abstinence from alcohol (and associated liver disease) only results in cure of the red cell malfunction, often in the absence of reversal of liver disease.

**Treatment Principles**

- **Drug treatment:**
  - Folic acid
  - Vitamins

- **Clinical Pearl:**
  - Spur cell anemia is an example of an evolutionary mismatch, whereby disease risks can be altered for organisms living in environments that differ from those in which their ancestors evolved. Our genes (and our genes) were not selected for environments that differ from those in which our ancestors lived 10,000 years ago or even 100 years ago. This mismatch may explain why cirrhosis is so much more common in environments in which our ancestors lived, whereas cirrhosis is relatively rare in modern human populations.

**Evolutionary Mechanisms**

- It is unclear whether cirrhosis (and all the complications of cirrhosis) are evolutionary adaptations to cirrhosis itself, evolutionary adaptations to cirrhosis without cirrhosis, or evolutionary adaptations to cirrhosis without cirrhosis in environments that differ from those in which our ancestors evolved.

**History of Medicine**

- Zieve's Syndrome

**Author**

- Janie Vu

**References**


**Terminology**

- Acquired Coombs-negative nonimmune hemolytic anemia
- Acquired immune hemolytic anemia
- Paroxysmal cold hemoglobinuria
- Hereditary spherocytosis
- Warm autoimmune hemolytic anemia
- Primary hereditary spherocytosis
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**Notes**

- No external notes provided.