

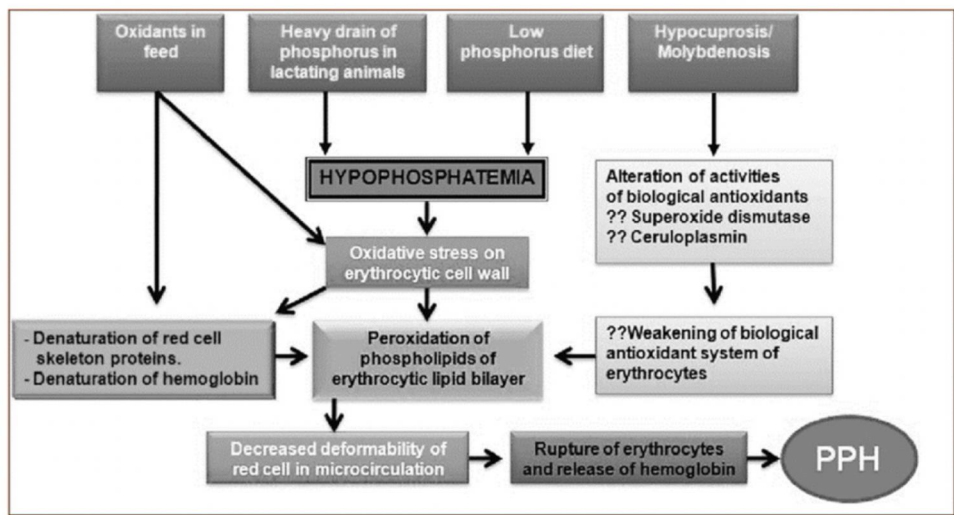
Unit : Bovine Postparturient Haemoglobinuria  
Lesson : 2

# Etiopathogenesis

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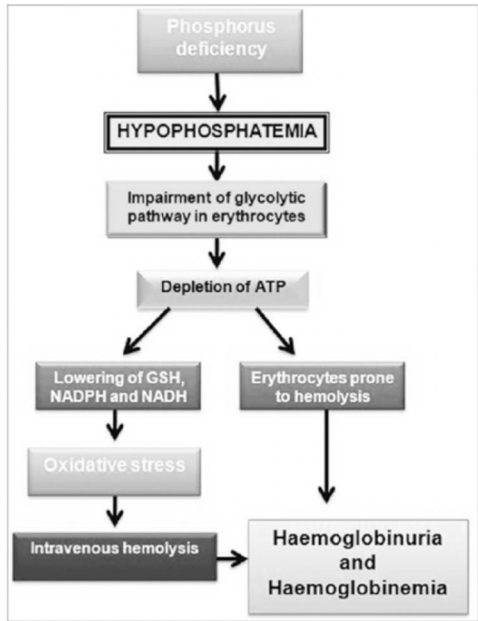
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# Etiopathogenesis





# Etiopathogenesis





# Copper Deficiency

**Reduced activity of copper containing enzyme – Superoxide dismutase.**



**This enzyme plays an important role in erythrocyte protection mechanism against oxidative stress**



**Oxidative injury to RBC**



**Hemolysis**



**Hemoglobinuria**

# Pathogenesis

- **Mammalian red blood cells are dependent on glucose metabolism as the main source of energy for viable function and structure.**
- **Hence highly vulnerable to factors inhibitory to the glycolytic pathways**
- **Hypophosphatemia results in decrease in red blood cell glycolysis and ATP synthesis**

# Pathogenesis

- **Subnormal concentrations of ATP predisposes red blood cells to altered function and structure, a loss of normal deformability, an increase in fragility and hemolysis.**
- **Haemoglobinemia and haemoglobinuria**
- **Changes in the red blood cells are irreversible**

- **Life span of the cells are probably diminished because they are unable to regain their previous structure and function**
- **Copper and selenium are important as they provide some protection against the effects of orally acquired hemolytic agents in cruciferous plants**
- **Clinical findings are those of hemolytic anemia and death is due to anemic anoxia**



*Thank you*