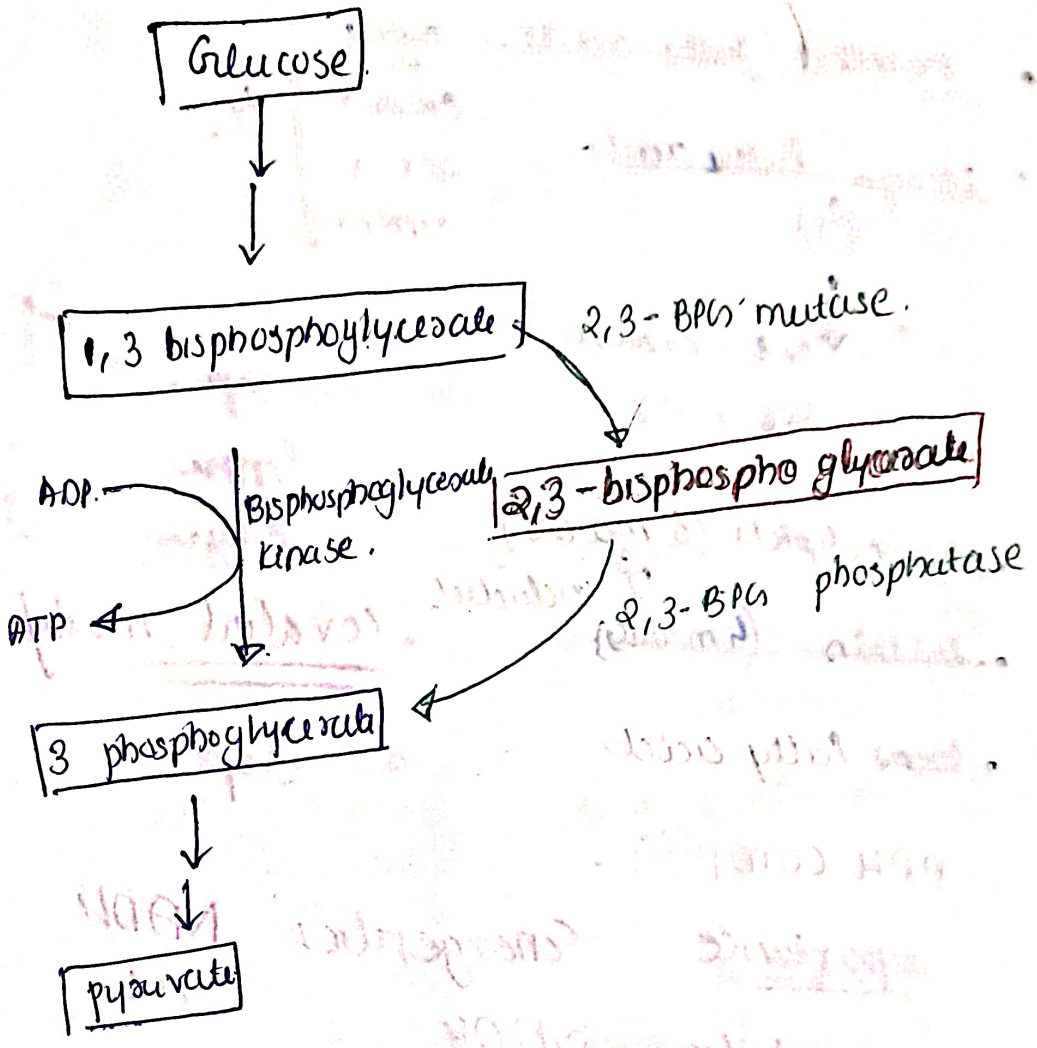
Rapaport - Luebering cycle in RBC

2,3 BPG Shunt

- Occurs in erythrocytes.
- Step - 6 of glycolysis is by passed in this.
- No ATP is generated.
- Here - 1,3 - bisphosphoglycerate instead of directly converting to 3 - phosphoglycerate is converted to an intermediate 2,3 bisphosphoglycerate (2,3-BPG) catalysed by 2,3 BPG mutase.
- 2,3 BPG is then converted to 3 - phosphoglycerate by 2,3 BPG phosphatase.



Significance of 2,3 BPG.

- 2,3 BPG combines with Hb and reduces its affinity towards O_2. This helps oxyHb to unload O_2 to tissue.
- 2,3 BPG level increase during hypoxia, anemic conditions & life at high altitudes.