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Green factory kite as a natural substitute to heme

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Hemoglobin is a vital blood component. Heme in hemoglobin is present in hydrophobic pockets. It is structurally similar to chlorophyll with a difference in Mg-centered porphyrin ring in chlorophyll and Fe-centered porphyrin ring in hemoglobin. The high percentage of chlorophyll content in a natural form as a grass juice is preferred in clinical conditions involving hemoglobin deficiencies. Green vegetation (chlorophyll) is a factorial area to produce porphyrin ring. This porphyrin ring resembles "Kite" because of its structural porphyrin-head & phytol-tail. Chlorophyll obtained undergoes a catabolic process and could have physiological roles. The Fe-Centered porphyrin ring obtained will act as a natural substitute in hemoglobin deficiency conditions. Iron remains in the ferrous (Fe^{++}) state in both oxygenated and deoxygenated hemoglobin. While in met-Hb, ferritin, transferrin iron is in ferric (Fe^{+++}) form. The oxygenation of one heme molecule enhances and accelerates oxygenation of other heme molecules. Similarly, the release of one oxygen molecule promotes the release of other which is required to meet metabolic demand of blood. 3.34 mg of iron-centered porphyrin ring of chlorophyll may require maximally bind of 1.34 ml of oxygen to form 1 gm of hemoglobin. Thus, the main aim is to provide beneficial effect of Fe-centered porphyrin ring of chlorophyll as a natural substitute to heme. The result of study may help the hemoglobin deficient patients to meet their iron and health needs.

Biography

Khwaja Amtul Raouf Qazi has completed her MPharm (Pharmacology) from Jawaharlal Nehru Technological University, Hyderabad with an aggregate of First Class with Distinction.

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