conferenceseries.com

J Blood Disord Transfus 2016, 7:5(Suppl)
http://dx.doi.org/10.4172/2155-9864.C1.020

Chemistry of dark red colored liquid tissue having deep metallic odour through oxygenated α, β-unsaturated aldehyde

Dhrubo Jyoti Sen, Pankaj H Prajapati, Rajat Chaudhary, Heta Shah, Rutvi Patel, Dhruvi Pandit and **Ravi Pandya**
Gujarat Technological University, India

Blood is a liquid tissue having red in color with characteristic metallic smell or odour. Smells are notoriously hard to pin down, describe and identify but most people agree that the smell of fresh blood has a distinct, metallic tang. You might assume this comes from the iron in our blood, but an organic compound; a type of aldehyde is to blame. (*2E*)-3-(3-pentyl-2-oxiranyl) acryaldehyde or trans-4,5-Epoxy-(*E*)-2-decenal or (*2E*)-3-[(*2S,3S*)-3-pentyloxiran-2-yl]prop-2-enal all are same substances having aldehyde moiety (-CHO). Unsaturated fatty acid has tendency to undergo rancidification due to the presence of double bond (sigma bond (σ) and pi bond (π)) in oxidative catabolism *in vivo* by oxidase enzyme and *in vitro* due to air oxidation. Unsaturated part undergoes reaction steps by Initiation, Propagation and Termination steps followed by free radical formation in Initiation step, peroxide formation in Propagation step and hydroperoxide step in Termination step which produce obnoxious smell due to the formation of epoxide. Since blood is a biological fluid tissue so it produces metallic smell of characteristic odour. Metallic odour of flesh or blood comes from the rancidification of linoleic acid is due to oxidation of unsaturated bonds by oxygen through initiation, propagation and termination steps of α, β-unsaturation of acid into oxygenated aldehyde. The unpleasant foul smell is generated by biochemical oxidative reactions both in vivo & *in vitro*. LogP of this substance is 1.73 so it is semi polar in nature due to three membered oxirane ring and double bond and aldehyde linkage, so it is easily atomized into the atmospheric environment to disperse the odour.

dhrubosen69@yahoo.com

RBC profile in chronic kidney disease

Sushma Belurkar
Kasturba Medical College, India

Objective: To analyze changes in various RBC parameters in patients with CKD.

Methods: This is a retrospective study conducted for a period of 2 and ½ years. Total 300 cases of CKD were evaluated and their RBC parameters were studied.

Results: Various RBC parameters in CKD patients. The mean RBC count in these patients was 3.29±0.8×1012/L (Normal: 4.6±0.6×1012/L), mean Hemoglobin (Hb) was 93±50 g/L (Normal: 135±20 g/L), PCV was 0.28±0.08 L/L (Normal: 0.40±0.05 L/L), Mean cell volume was 86±7 fl (Normal: 86±9 fl), Mean cell Hb was 28.4±2.6 pg (Normal: 29±4 pg) and Mean cell Hb count was 328±17 g/L (Normal: 340±30 g/L). The major hematological abnormality in CKD patients was anemia with 67% of cases having Hb value below 10 gm/dl and the degree of anemia worsened with the stage of the disease. Deviation in Hb levels is directly proportional to RBC count and hematochrit. But there was non-significant change in the MCV, MCH and MCHC values indicating normocytic normochromic type of anemia. Only 3.4% cases had microcytic hypochromic anemia and 2.6% cases had macrocytic anemia. Features of hemolysis were seen in 21% cases.

Conclusion: Chronic kidney disease is often complicated by anemia and the major causes of anemia are failure of renal erythropoietin secretion and anemia of chronic disease. Other factors causing anemia include chronic blood loss, hemolysis, bone marrow suppression, inflammatory factors and vitamin deficiencies.

sushbelur@gmail.com