

STORED RED BLOOD CELLS IN TRANSFUSION MEDICINE

Summary

Red blood cell transfusion is an important element of modern medical care. However, during conventional blood bank storage red blood cells undergo progressive metabolic, biochemical, biomechanical and functional changes, leading to their aging and finally to loss of viability. Irradiation of cellular blood components, currently the only accepted method to prevent transfusion-associated graft-versus host disease, reduces the storage time to 28 days. Transfusion of blood com-

ponents is always associated with the risk of various unwanted after-effects. Under the pressure of clinical questions about the safety of stored red blood cells it is important to develop new storage conditions preventing red blood cell aging and new methods for the control of the quality of the stored cells. Presently, proteomics offers approaches for deeper understanding of the properties and function of stored red blood cells.