Monitoring ICT

Assessment of IOL and common adverse events of ICT. Ideal assessments are listed and mandatory assessments bolded.

Observation	Frequency	IOL assessment	AE monitoring
Iron intake rate	Each transfusion	✓	
Chelation dose and frequency	3 monthly	✓	✓
Renal function[a]	As frequently as required		✓
Liver function	3 monthly	✓	✓
Sequential serum ferritin, transferrin saturation[b]	3 monthly	✓	
GTT, thyroid, calcium metabolism (BMD[c])	Yearly in adults	✓	
Liver iron (T2* MRI)[d]	At baseline where feasible and subsequently as clinically indicated	✓	
Cardiac function (echo, MRI, ecg)	At baseline then as clinically indicated	✓	
Cardiac iron (T2* MRI)	For patients receiving >50U RBC prior to ICT, or with CHF or arrythmias	✓	
Slit lamp examination, audiometry	Yearly		✓

AE, adverse event; BMD, bone mineral density; CHF, congestive heart failure; ecg, electrocardiogram; echo, echocardiogram; GTT, glucose tolerance test; ICT, iron chelation therapy; IOL, iron overload; MRI, magnetic resonance imaging; RBC, red blood cells; U, units

[a]creatinine should be measured at least every two weeks with each dose increase until stable [b]transferrin saturation >80% may indicate the presence of oxidative stress (reference 1) [c]based on early/suggestive data in transfusion dependent hemoglobinopathies (reference 2) [d]up to 25% of hepatic IOL is underestimated by serum ferritin level (reference 3) Reprinted from Leitch HA. 2014 Canadian Perspectives in Clinical Hematology; 2:4-10, with permission and from Leitch HA, et al; Crit Rev Oncol Hematol. 2017 May;113:156-170 with permission.

1. Sahlstedt L, et al. Br J Hematol. 2001;113:836-838. 2. Ezzat H, et al. Blood. 2012;120, abstract 3203. 3. Nolte F, et al. Ann. Hematol. 2013;92:191-198.