Legends for supplementary Figure1:

Experimental hypothesis to predict the splenic filtration function using ex-vivo microsphiltration of parasite-infected red blood cells from patients with mild malaria.

a) In a fully functional spleen, the splenic artery brings infected RBCs into the splenic red pulp. Deformable infected RBCs arrive - through the inter- endothelial slit of the wall of the splenic veins- in the lumen of the splenic vein while stiff infected RBC are retained in the splenic red pulp (1) resulting in a low venous parasitemia (2). The *ex vivo* microsphiltration of venous deformable infected RBCs may yield a lower retention rate (3).

b) In an abnormally functional spleen, stiff infected RBC are not maximally retained in the splenic red pulp. Therefore, infected RBCs accumulate less in the red pulp (1) and veinous parasitemia is higher (2). The *ex vivo* microsphiltration of venous stiff infected RBC may result in a higher retention rate (3).