Renal complications in sickle cell disease

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Renal disease is one of the most frequent complications in patients with sickle cell disease (SCD) and is likely to become more prevalent as the patient population ages. Early features of sickle cell nephropathy (SCN) include an increase in glomerular filtration rate (GFR), an inability to concentrate urine (hyposthenuria) and proteinuria. Repeated medullary ischaemia leads to relative proximal tubular “hyperfunction” as demonstrated by increased creatinine secretion and reabsorption of beta2-microglobulin. Prolonged hyper filtration and raised glomerular pressure leads to chronic renal failure with a reduced GFR (<60 ml/min) in approximately 4-20% of patients, many of whom will go on to develop end-stage renal failure. Once renal complications are detected, a careful assessment of patient, preferably in a joint consultation with a renal physician, is required to exclude other treatable causes of the renal dysfunction.

This talk will cover the spectrum of renal disease from early monitoring in the outpatient clinic to the care of patients with end-stage renal failure including dialysis and renal transplantation, supported by a couple of real-life case scenarios. Similarly, there is also a noticeable increasing prevalence of impaired renal function in patients with beta-thalassemia which may be due to several putative factors, including the use of chelators.