**“Retrograde Intra Renal Surgery (RIRS): Minimally invasive stone surgery, its safety and efficacy in patient with Sickle Cell Anaemia. A case report and review of literature for the optimal peri-operative management of Sickle cell patients.”**

**ABSTRACT:**

Sickle Cell Anaemia (SCA) is a genetic haematological disorder, characterised by repeated haemolytic and vaso-occlusive episodes. Surgical procedures in such patients carry the risk of bleeding and coagulation related problems. Kidney stone is a common health problem in India. The optimal management depends on various stone related factors (stone burden, location, hardness, degree of hydronephrosis) and patient related factors. Kidney stone surgery in patients with bleeding disorders can be challenging. Extra Corporeal Shock Wave Lithotripsy (ESWL) and Percutaneous Nephrolithotomy (PCNL) are minimally invasive procedures. Yet, they pose the risk of bleeding and are relatively contra-indicated in patients with bleeding disorders. Retrograde Intra Renal Surgery (RIRS) is the most minimally invasive modality for upper tract calculi due to the least risk of bleeding. Since there is no puncture in the kidney, it is relatively safe in patients with bleeding disorders, cardiac patients on anti-platelets, recurrent stone formers, solitary kidneys and stones in anatomically abnormal kidneys.

Our patient presented with 13 x 12 mm upper ureteric calculus with hydronephrosis. During pre-operative work up, he was diagnosed with SCA. We could achieve complete stone clearance with the help of RIRS. No post-operative complication such as bleeding, urosepsis, sickling crisis, renal infarction etc. was noted. The patient was discharged within 48 hours and is doing well. Till date, there is no reported case of RIRS for renal stone management in Sickle Cell Anaemia patients. We aim to report this case and review the literature for the ideal peri-operative management of Sickle cell anaemia patients.