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Effect Of Desmopressin In Reducing Post Kidney Biopsy Bleeding Complications In Patients With Reduced Renal Function

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Objectives : This study aimed to see the effect of desmopressin in reducing post kidney biopsy bleeding complications in patients undergoing native kidney biopsy with reduced renal function(eGFR</=60ml/min/1.73m^2).The primary objective was to compare the effect of prebiopsy treatment with intranasal desmopressin and placebo on the incidence of post biopsy bleeding complications. Secondary objective was to determine the potential predictors of bleeding complications and the safety of desmopressin administration
Methods : This was a single centered double blind randomized controlled study spanning over 22 months where 152 consecutive patients with reduced renal function (eGFR</=60ml/min/1.73m^2) were randomized into an experimental group(n=74) receiving intranasal desmopression at 3mcg/kg one hour prior to biopsy and a control group(n=78) receiving intranasal saline.Primary outcome measure was the incidence of post biopsy bleeding complications. Minor complications included flank pain, gross hematuria and perirenal hematoma that resolved spontaneously without interventions. Major complications included blood transfusions,acute renal obstruction,need for coil embolisation for AV fistula or pseudoaneurysm formation,nephrectomy.Secondary outcome measures included hematoma size, post biopsy hemoglobin level, blood pressure.
Results : Baseline parameters were matched between the two groups.Post biopsy hemoglobin and serum sodium was significantly decreased in the desmopressin group.There was no significant difference between the two groups in overall and major bleeding complications.In minor complications,there was a significant benefit with desmopressin in reducing the incidence of hematoma at 24 hours while lumbar pain, gross hematuria, hematoma at 6 hours and hematoma volume had no significant difference between the two groups. No adverse events were noted with desmopressin.
Conclusions : In patients with reduced renal function(eGFR</=60ml/min/1.73m^2) intranasal desmopressin before USG guided native kidney biopsy didn't reduce the overall bleeding complications significantly in comparison to placebo.Administration of desmopressin is associated with a significant drop in hemoglobin post biopsy and an increased incidence of asymptomatic hyponatremia when compared to placebo, both accountable to it's hemodilutional effect.