#1786 - Prevalence of renal scar in children with vesicoureteral reflux and factors associated with increased renal scar development	
Authors and Affiliations	Fatemeh Ghalibafan ,Mitra Naseri ,Maryam Khalesi
Corresponding Author and email	Fatemeh Ghalibafan,naserimitra2014@gmail.com
Body	**Introduction:** vesicoureteral reflux (VUR) is the main risk factor for renal parenchymal injury during childhood. Different factors have been suggested to increase the risk of scar formation in cases with VUR including age at presentation, history of febrile urinary tract infection (UTI), delay in diagnosis and treatment of UTI, presence of high intra vesical pressure and severity of VUR. We aimed to evaluate the prevalence of scar in cases with VUR and define possible factors that can increased risk of scar development. **Materials and methods**: During a 2 -year period 100 pediatric cases with VUR referred to nephrology clinic of Dr.Sheikh children hospital and office of pediatric nephrology evaluated for renal scar by TC 99 DMSA scan. Routinely all cases with severe VUR, those with recent history of UTI (even cases with mild and moderate VUR) were recommended to use prophylactic antibiotic .TC 99 DMSA scan was done 3-6 months after febrile UTI or immediately after diagnosis of VUR in those without febrile UTI .Based on number of scars and changes in kidneys volumes on DMSA scan, scar were categorized into 4 grades .A comparison was done between cases with and without renal scar with considering age , gender ,history of febrile UTI , severity of VUR ,primary versus secondary and unilateral versus bilateral VUR .One sample kolmogorov smirnov test was used for assessing normality of variables.Chi square and independent t tests were used for data analysis and P value ≤0.05 were considered as statistically difference . **Results**: 67 girls (67%) and 33 boys (33%) aged 5 days to 12 years and 9 months (44.7 ±41.6 months) enrolled the study .Renal scars reported in 41 cases (41%).Severe renal damages (scar grades 3 and 4) were found in 16 of 200 kidney units (8%) including 7 in right and 9 in left kidneys .Mean ages at first visits in clinic ,first UTI and time of VUR

diagnosis were higher in those with rather than cases without scar (P=0.005, 0.046 and 0.001 respectively) .Age groups ≤ 2 years and > 2 years and also ≤ 5 years and > 5 years in first visits in clinic , first UTI and time of VUR diagnosis were compared between cases with and without renal scar. Frequencies of cases with renal scar in patients with first visits > 2 and > 5 years were significantly higher (P=0.01 and 0.011 respectively). Frequencies of cases without renal scar with ages at time of VUR diagnosis ≤ 2 and ≤ 5 years were significantly higher (P= 0.043 and 0.002 respectively).There was no difference in frequency of patients with first UTI ≤ 2 years and > 2 years in patients with and without scar (P=0.281), but first UTI at age > 5 years was significantly more prevalent in those with renal scar (P=0.002). There were no significant differences based on gender, history of febrile UTI, primary rather secondary, unilateral versus bilateral and severe rather non severe (VUR grades I-III) VUR between cases with and those without renal scar (P>0.05 for all).

Conclusion: We concluded that early presentation of UTI (in infancy or early childhood) in patients with VUR, early diagnosis of VUR preferably before age 2 or even 5 years and early referring of patients to pediatric nephrologist or urologist might decrease the risk of renal scar development. Absence of significant difference between primary versus secondary VUR may be due to low patients number in secondary VUR group and needs to repeat the evaluation in larger number of patients .Also absence of significant difference in scar formation between severe with non-severe VUR may be due to early diagnosis and proper treatment of UTI and preventing infection by using prophylactic antibiotics.

Key words: UTI, VUR, renal scar, grade of VUR, primary VUR, secondary VUR

References

Generate date 25 November 2017 13:56