Abstract Title: Risk factors associated with relapse in childhood steroid sensitive nephrotic syndrome

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Introduction: The long-term prognosis of children with steroid sensitive nephrotic syndrome (SSND) is excellent. However, half of them will develop frequent relapsing (FR) disease which is a major challenge for physicians to manage. Many patients with FR nephrotic syndrome experiencing complications of immunosuppression and steroid toxicity which leads to increased morbidity and mortality. Hence, it is very important to find out children who are prone to develop FR nephrotic syndrome early in the course of the illness.

Objective: The aim of our study was to identify the risk factors associated with relapse in children with steroid sensitive nephrotic syndrome (SSNS).

Material and methods: A cross-sectional analytical study was conducted at French Medical Institute for Mothers and Children (FMIC), Kabul, Afghanistan from January 2018 to January 2019. A total of 120 children aged 1-10 years with the diagnosis of SSNS and a minimum follow up of 6 months were included in the study. Data obtained retrospectively from reviewing medical record files. Data was analyzed by using SPSS version 25. Chi-squared test and Student's t-Test were used as statistical tests and $p< 0.05$ was taken as significant.

Results: Out of 120 children, 112 (93.3%) of the participant suffered from SSNS, 53 (44.2%) were FR and 67 (55.8%) were IFR. The mean age of presentation was (4.3±2.5) years. There were 65 (54.2%) males and 55 (45.8%) females with a male to female ratio of 1.2:1. The mean time taken to achieve remission during the first episode was (1.4±0.8) weeks and the mean time interval between remission and first relapse was (7.3±2.8) months. Risk factors significantly associated with FR were: young age (<6 years) at initial presentation (p=0.0001), female gender (p=0.009), more than two weeks (>14 days) time taken to achieve remission during the first episode (p=0.0001), relapse within the first 6 months of remission (p=0.0001), interruption of treatment (p=0.002) and associated infections (p=0.014). In our study, asthma attack and duration of corticosteroid therapy did not influence the pattern of relapse.

Conclusion: Young age at the time of initial presentation, female gender, >14 days' time to achieve remission during the first episode, relapse within the first 6 months of remission, associated infections and interruption of treatment were the risk factors significantly associated with FR nephrotic syndrome.

Keywords: Nephrotic syndrome, relapse, Steroid sensitive, children, risk factors.