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### Histopathologic Characteristics of Childhood Nephrotic Syndrome in a Tertiary Health Facility in Nigeria

*Caractéristiques histopathologiques du syndrome néphrotique de l'enfant dans un établissement de santé tertiaire au Nigeria*

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#### ABSTRACT

**BACKGROUND:** Globally, the predominant histopathologic characteristic of childhood nephrotic syndrome has been minimal change nephropathy (MCN). However, some studies from Africa and Nigeria have revealed otherwise. It is imperative that this pattern is re-examined from time to time given changing disease and environmental dynamics from place to place.

**OBJECTIVE:** This study aimed to determine the histopathological characteristics of childhood nephrotic syndrome in Ilorin, north-central Nigeria.

**METHODS:** A prospective study of all new patients aged 2-14 years who presented with clinical features of nephrotic syndrome between January 2010 to December 2023 at the University of Ilorin Teaching Hospital, Ilorin was carried out. All eligible patients underwent renal biopsy.

**RESULTS:** A total of 47 children with nephrotic syndrome were biopsied comprising of 21 males and 26 females making an M: F ratio of 1:1.2. The age range of subjects was 2-14 years with a mean of  $7.8 \pm 3.6$  years. The most common histological type of nephrotic syndrome was minimal change nephrotic syndrome (MCNS) which occurred in 35 (74.5%) children followed by membranoproliferative glomerulonephritis (MPGN) in 5 (10.6%) and focal segmental glomerulosclerosis (FSGS) in 2 (4.3%). Of the 35 MCNS patients, 31 (88.6%) were steroid sensitive while 4 (11.4%) were steroid resistant.

**CONCLUSION:** The predominant histopathological characteristic of childhood nephrotic syndrome was minimal change nephrotic syndrome, which was mostly steroid-sensitive.

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**KEYWORDS:** Nephrotic syndrome, Child, Histopathology, Nigeria

#### RÉSUMÉ

**CONTEXTE:** Au niveau mondial, la principale caractéristique histopathologique du syndrome néphrotique de l'enfant a été la néphropathie à lésions minimales (NLM). Cependant, certaines études en Afrique et au Nigeria ont montré des résultats différents. Il est essentiel de réévaluer ce modèle régulièrement en raison de l'évolution des maladies et de l'environnement d'un endroit à l'autre.

**OBJECTIF:** Cette étude visait à déterminer les caractéristiques histopathologiques du syndrome néphrotique de l'enfant à Ilorin, dans le nord-centre du Nigeria.

**MÉTHODES:** Une étude prospective de tous les nouveaux patients âgés de 2 à 14 ans présentant des signes cliniques de syndrome néphrotique entre janvier 2010 et décembre 2023 à l'hôpital universitaire d'Ilorin, à Ilorin, a été réalisée. Tous les patients éligibles ont subi une biopsie rénale.

**RÉSULTATS:** Au total, 47 enfants atteints du syndrome néphrotique ont été biopsiés, dont 21 garçons et 26 filles, soit un ratio H/F de 1/1,2. La tranche d'âge des sujets était de 2 à 14 ans avec une moyenne de  $7,8 \pm 3,6$  ans. Le type histologique le plus fréquent du syndrome néphrotique était la néphropathie à lésions minimales (NLM), observée chez 35 (74,5 %) enfants, suivie de la glomérulonéphrite membranoproliférative (GMPN) chez 5 (10,6 %) et de sclérose segmentaire et focale (SSF) chez 2 (4,3 %). Parmi les 35 patients atteints de NLM, 31 (88,6 %) étaient cortico-sensibles et 4 (11,4 %) cortico-résistants.

**CONCLUSION:** La principale caractéristique histopathologique du syndrome néphrotique de l'enfant était la néphropathie à lésions minimales, qui était principalement cortico-sensible.

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**MOTS-CLÉS:** Syndrome néphrotique, Enfant, Histopathologie, Nigeria

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