

History of Pediatric Renal Pathology

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Abstract : Because childhood renal diseases are grossly different compared to adult diseases, pediatric nephrology was founded as a specialty in 1965. Renal pathology specialty was introduced at the London Ciba Symposium in 1961. The history of renal pathology can be divided into two eras: one starting in the 1650s with the invention of the microscope, the second in the 1950s with the implementation of renal biopsy, and the presence of electron microscopy and immunofluorescence study. Prior to the 1950s, the study of diseased human kidneys was restricted to postmortem examination by gross pathology. In 1827, Richard Bright first described his triad of kidney disease, which was confirmed by morbid kidney changes at autopsy. In 1905 Friedrich Mueller coined the term “nephrosis” describing the inflammatory form of “degenerative” diseases, and later F. Munk added the term “lipoid nephrosis”. The most profound influence on renal diseases’ classification came from the publication of Volhard and Fahr in 1914. In 1899, Carl Max Wilhelm Wilms described Wilms' tumor of the kidneys in children. Chronic pyelonephritis was a popular renal diagnosis and the most common cause of uremia until the 1960s. Although kidney biopsy had been used early in the 1930s for renal tumors, the earliest reports of its use in the diagnosis of medical kidney disease were by Iversen and Brun in 1951, followed by Alwall in 1952, then by Pardo in 1953. The earliest intentional renal biopsies were done in 1944 by Nils Alwall, while the procedure was abandoned after the death of one of his 13 patients who biopsied. In 1950, Antonino Perez-Ara attempted renal biopsies, but his results were missed because of an unpopular journal publication. In the year 1951, Claus Brun and Poul Iverson developed the biopsy procedure using an aspiration technique. Popularizing renal biopsy practice is accredited to Robert Kark, who published his distinct work in 1954. He perfected the technique of renal biopsy in the prone position using the Vim-Silverman needle and used intravenous pyelography to improve the localization of the kidney.

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