Abstract

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The role of ultrasound monitoring of morphological changes of the kidney in Chronic Renal Diseases

Marsida Duli

Head of Nursery and Physiotherapy Department, European University of Tirana, Albania

Abstract

Chronic renal disease is a functional diagnosis defined as the irreversible, general, and progressive reduction of more than half of renal function, which is translated through the GFR value. In Chronic Renal Insufficiency, progressive loss of renal function is accompanied by a progressive reduction in kidney size over a period of several months or several years. IRK is a consequence of a large number of diseases such as glomerulonephritis, diabetes, hypertension, polycystic kidney disease, etc. In the initial stages of advanced chronic renal failure everything works normally, consequently patients seek medical attention only in cases where the disease progresses to the uremic stage. Normally adult patients become aware of renal failure when the GFR drops below 15 mL / min, known as the terminal stage of kidney disease. Ultrasound examination is able to identify Chronic Renal Insufficiency in the early stages, to identify different pathologies causing it, to differentiate between different types of histopathological lesions.

Purpose: The study aims to provide data on the change of morphological parameters of the kidney of a population with Chronic Renal Disease through ultrasound, as well as to identify valid correlations of impaired renal function.

Methodology: The study is retrospective, conducted at QSUT with the cards of patients hospitalized with Chronic Renal Disease during the years 2012-1015 at the Nephrology service. Data collection for 2184 cards was performed through an individual file for each card, with data on morphological changes in ultrasound, clinical and demographic.

Results: The average age of patients with SRK is 55.38 years, and mostly female. ICP represents the leading cause of SRKs with 39.2%, followed by Diabetic Nephropathy and GNK. There is a statistically significant relationship between kidney size and stages of Chronic Renal Disease, between the thickness of the renal parenchyma and the stage of the disease, Creatinemia and Azotemia levels. In renal polycystosis there is a positive relationship between the stage of SRK and the number of cysts; patient age and number of cysts.

Conclusions: Kidney size decreases with the progression of SRK stages, but are not indicative for assessing the type of underlying disease causing SRK. With increasing SRK stage, creatinine and azotemia values, the thickness of the renal parenchyma thins. In renal polycystic ovaries with increasing stage of SRK more cysts and with increased size are evidenced in the kidneys through ultrasound.