# Renal biopsy database from the Department of Pathology Dubrava University Hospital Zagreb

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Introduction:

Renal biopsy database in the Department of Pathology, Dubrava University Hospital was created in 2003. The aim of the database is to accumulate computer-based pathologic data concerning all renal biopsy samples examined in the Department. With our database we can show the epidemiology of renal diseases diagnosed by biopsy: incidence and trends in epidemiology.
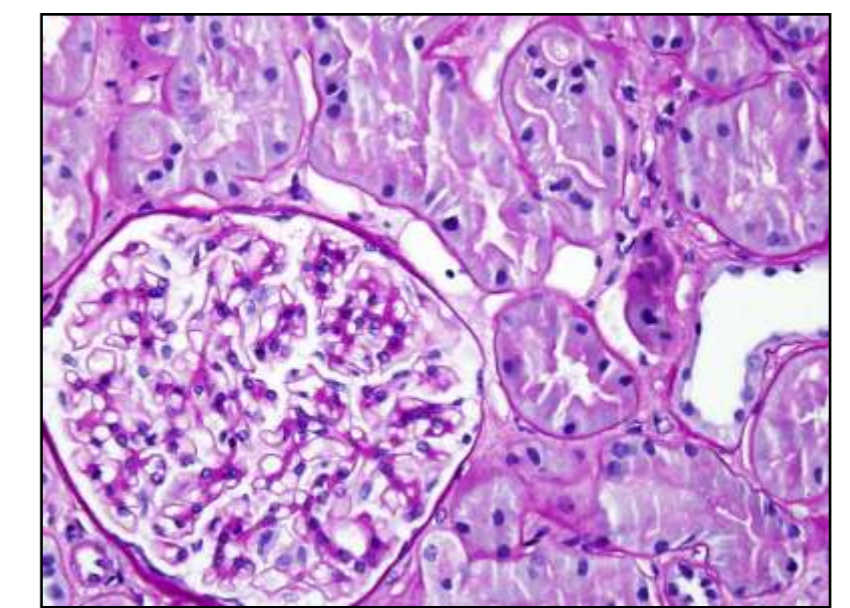
Design:

We reviewed the database over a 7 years period (from April 2003 to December 2010) and performed the statistical analysis of our data including number of biopsies through years, patients gender, age, number of biopsies per patient, diagnoses and hospitals where the biopsy was performed.

Results:

During a 7 years period there were 2177 renal biopsy samples (1279 males; 883 females, 15 donor kidneys, patient's age range 1-85 years; median 51). Biopsies originate from 11 croatian hospitals, mostly from Dubrava and Merkur University Hospital Zagreb. Six biopsy samples came from Mostar University Hospital (Bosnia and Herzegovina). The number of biopsies increased 15,9 times in that period (from 34 biopsies in 2003. to 542 in 2010.).

Among 1274 native renal biopsies, men were 1,4 times more biopsied than women (M:F=734:540), mean age was 47,4 years. Among them, glomerular diseases were the most frequent diagnosis (80%) (Fig. 2), followed by tubular and interstitial diseases (6,8%) and diseases of the blood vessels (3,2%). The most common diagnose was IgA nephropathy (17,5%) followed by FSGS (14,2%) and MGN (7,8%). GN-PI (7,2%) is the most common secondary glomerular disease in our sample. LN and diabetic nephropathy (DN) are the second and third most common diagnoses among secondary glomerular diseases in our sample.
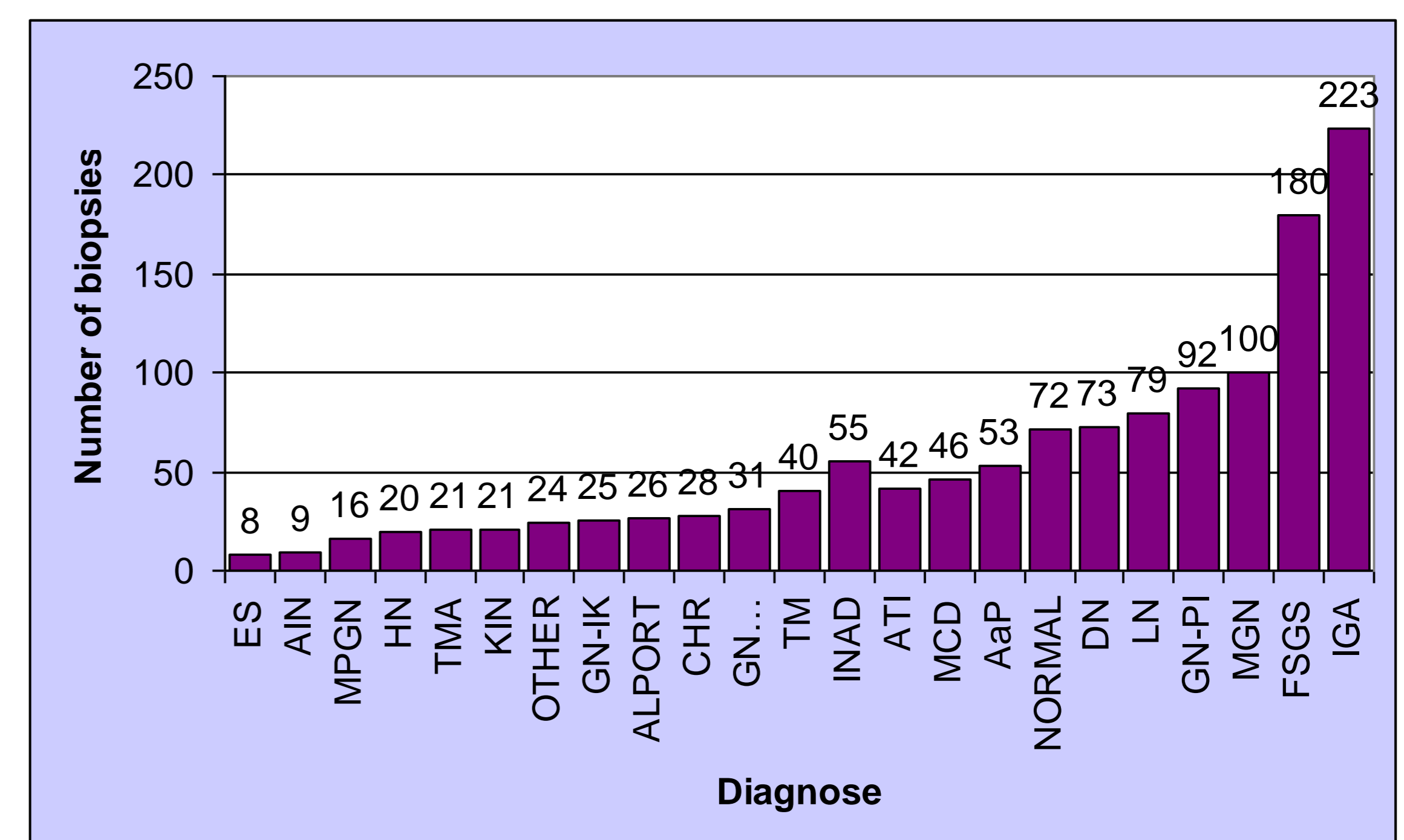
Among 888 renal transplant biopsies men were 1,3 times more biopsies then women (M:F=546:342), mean age was 47,4 years. Acute tubular injury was the most common disease diagnosed in 37,4%, followed by acute cellular rejection in 24% of all renal transplant biopsy samples (Fig. 2.).

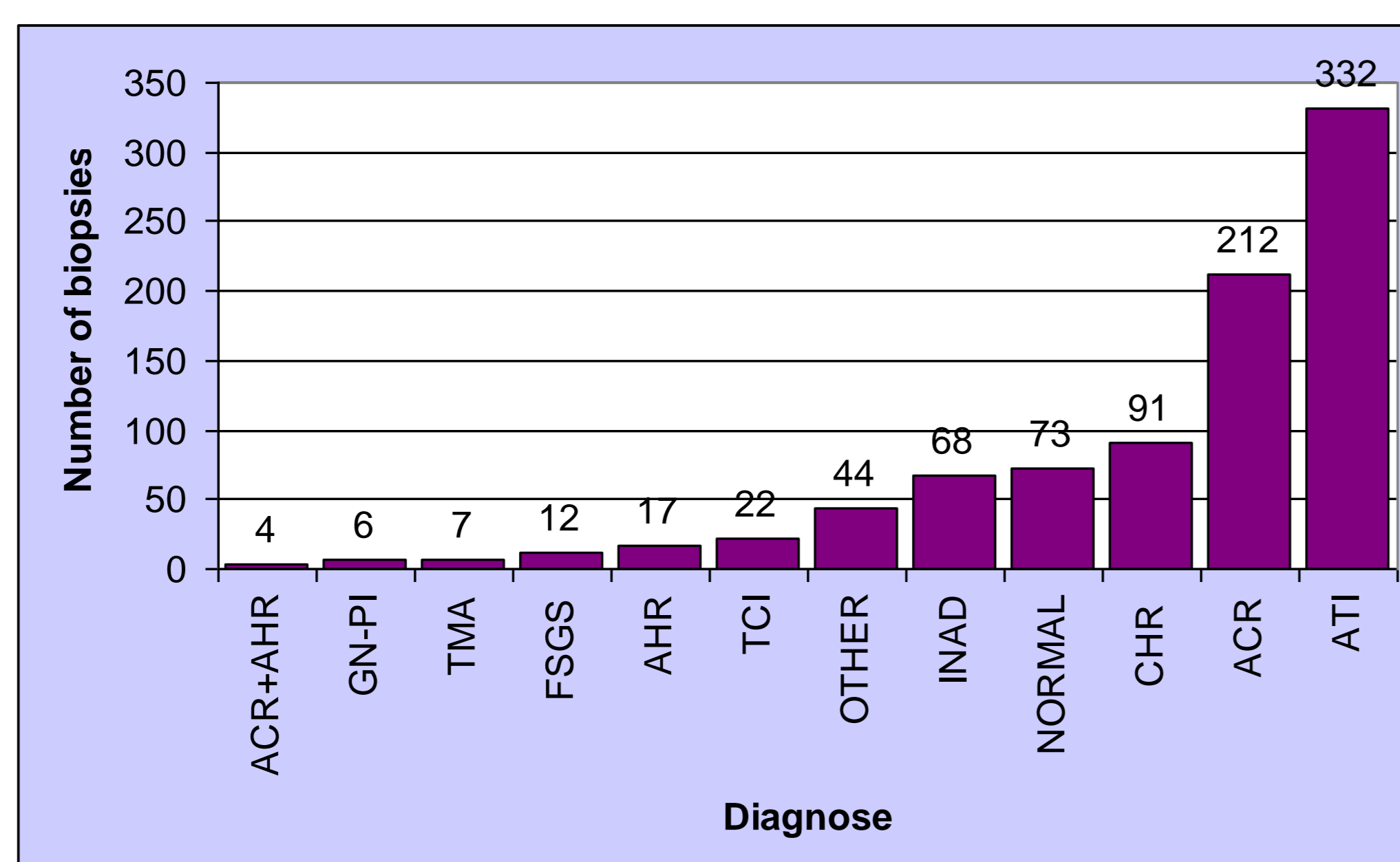Figure 1. Diagnoses of native renal biopsy samples*

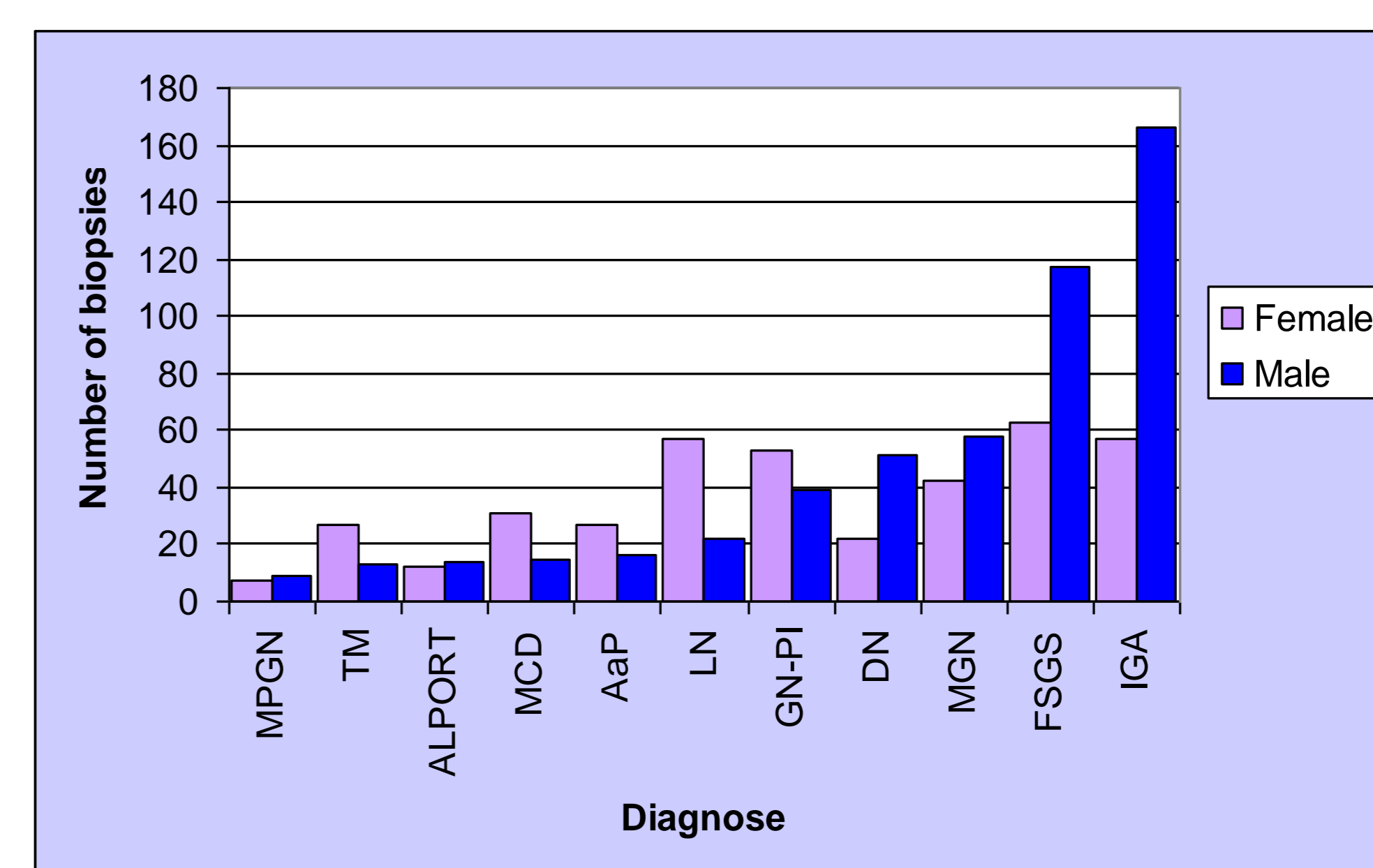Figure 2. Diagnoses of transplant biopsy samples*

Figure 3. Diagnoses of native renal biopsy samples according to patients gender*

Conclusion:

Primary glomerular diseases were 1,6 times more frequent then secondary.Some diseases are more frequent in men then in women and vice versa (Fig. 3.). Our results show the epidemiology of the renal diseases requiring biopsy in almost whole Croatia.

*ES- end stage of renal disease, AIN – acute interstitial nephritis, MPGN - membranoproliferatve glomerulonephritis. HN- hipertensive nephropathy, TMA – trombotic microangiopathy, KIN – chronic interstitial nephritis, Others- Other diagnoses, GN-IK- glomerulonephritis cause by imunne complexes, Alport – Alport syndrom, CHR- chronic changes, GN...- unspecified glomerulonephritis, TM – thin basement membrane disease, INAD- inadequate sample, ATI – acute tubular injury, AaP – amyloidosis and diseases asociated with plasma cell dyscrasias, MCD – minimal change disease, NORMAL – normal kidney sample, DN – diabetic nephropathy, LN - lupus nephritis, GN-PI – pauci-imunne glomerulonephritis, MGN – membranous glomerulonephritiss, FSGS – focal segmental glomerulosclerosis, IGA - IgA nephropathy, ACR+AHR- acute cellular associated with acute humoral rejection, AHR- acute humoral rejection, TCI – toxicity of calcineurin inhibitors, ACR – acute cellular rejection

Literature:
1.Walker PD, Cavallo T, Bonsib SM. Practice guidelines for the renal biopsy. Mod Pathol 2004; 17:1555-63. 2. Jennette JC, Olson JL, Schwartz MM, Silva FG, Heptinstall's pathology of the kidney. Philadelphia: Lippincott Wiliams & Wilkins, 2007:99.