significant difference in WBC (leu/μl), (acute 15; chronic 125), specific gravity (acute 1.005; chronic 1.015), protein (g/dl) (acute 0,15; chronic 3.0). Hypoalbuminemia and hypoproteinemia appeared as a result of protein loosing nephropathy in chronic conditions because of disruption of the nephrons. Dyslipidemia, especially hypercholesterolemia is common biomarker of nephrotic syndrome. Uremia means retention of non-protein azotemic molecules because of impaired glomerular filtration. Urinary sediment in the group of dogs with acute renal failure revealed small cellularity of pleomorphic cells from upper and lower renal tract. Urinary sediment from the group with chronic renal failure revealed high cellularity of pleomorphic cells. The cells have origin from upper renal tract and they have vacuolated cytoplasm and picnotic nucleus. Erytrocytic granulated cylinders and protein precipitates were common finding. Inflammatory cells appeared without any toxic changes. Erytrogram, urea, albumins, total proteins, cholesterol, can be established as useful parameters for diagnosis acute from chronic renal failure, as well as mild to severe proteinuria and cellularity of urine sediment.

Key words: hematology biochemistry, acute, renal failure, chronic renal failure, dog