S-B17

한국인 만성콩팥병에서 빈혈의 유병율과 위험인자 분석- KNOW-CKD 코호트 연구

가천의대 길병원 신장내과[1], 을지병원 내과[2], 서울대병원 신장내과[3], 분당서울대병원 신장내과[4]
세브란스병원 신장내과[5], 강북삼성병원 신장내과[6], 서울성모병원 신장내과[7]
전남대병원 신장내과[8], 인제의대 부산백병원 신장내과[9], 서울의대 예방의학교실[10]

임혜진[1], 황영환[2], 정우경[1], 성수아[2], 오국환[3], 채동완[4], 최규헌[5]
이규백[6], 김용수[7], 김수완[8], 김영훈[9], 이중엽[10], 박수경[10], 안규리[3]

Prevalence and Risk Factors for Anemia in Chronic Kidney Disease in Korea - KNOW-CKD Cohort Study

Hye Jin Lim[1], Young-Hwan Hwang[2], Woo-kyung Chung[1], Su-Ah Sung[2]
Kook-Hwan Oh[3], Dong-Wan Chae[4], Gyuhun Choi[5], Kyubeck Lee[6]
Yong Soo Kim[7], Soo Wan Kim[8], Young Hoon Kim[9], Joongyub Lee[10], Sue Kyung Park[10], Curie Ahn[3]

Department of Internal Medicine[1], Gachon University School of Medicine, Incheon
Department of Internal Medicine[2], Eulji General Hospital, Seoul, Korea
Department of Internal Medicine[3], Seoul National University Hospital, Seoul, Korea
Department of Internal Medicine[4], Seoul National University Bundang Hospital, Seongnam-si, Gyeonggi-do, Korea
Department of Internal Medicine[5], Yonsei Univerisity Severance Hospital, Seoul, Korea
Department of Internal Medicine[6], Kangbuk Samsung Medical Center, Seoul, Korea
Department of Internal Medicine[7], Catholic University, Seoul St. Mary Hospital, Seoul, Korea
Department of Internal Medicine[8], Chonnam University, Kwangju, Korea
Department of Internal Medicine[9], Inje University, Pusan Paik Hospital, Busan, Korea
Medical Research Collaborating Center[10], Seoul National University Hospital and
Seoul National University College of Medicine, Seoul, Korea

Background: Anemia is common in patients with chronic kidney disease (CKD) and may contribute to adverse clinical outcomes. Early identification and treatment of anemia may improve cardiovascular morbidity and mortality, but few reports are available on the large-scale population data in Korean patients with CKD. The aim was to examine the prevalence of anemia and the risk factors for anemia in CKD.

Methods : We investigated the prevalence and risk factors in CKD stage 1-5 (non-dialysis) patients in Korea based on the baseline data obtained from a prospective cohort study (KoreaN Cohort Study for Outcome in Patients With Chronic Kidney Disease : A 10-year Longitudinal Cohort Study of the Chronic Kidney Disease (KNOW-CKD)). Anemia was defined as hemoglobin <13 g/dL in male and <12 g/dL in female. Iron deficiency was defined when transferrin saturation (TSAT) was <20% or ferritin level <100 ng/mL.

Results: A total of 1,472 subjects at baseline had hemoglobin levels measured. Anemia was present in 41% in male and 51% in female of all patients. Prevalence of anemia increased as GFR and albuminuria stage progressed. Diabetic patients had signifinicantly higher prevalence of anemia than subjects with other etiologies. Risk factors for anemia include female (OR=1.7), diabetic nephropathy (OR=5.0), lower GFR (OR=4.6, 6.6, 23.7, and >100 at stage 3a, 3b, 4, and 5, respectively), TSAT <20% (OR=3), and overt albuminuria (OR=1.9). Ferritin level was not associated with anemia.

Conclusion: The prevalence of anemia increases as GFR lowers and albuminuria increases. Female gender, diabetes, lower GFR, low TSAT and albuminuria are independent risk factors for anemia. Further defining the mechanism may provide ways to optimize outcomes in anemia management.

Key Words: 빈혈, 만성콩팥병, 철분 결핍
Anemia, Chronic kidney disease, Iron deficiency