

The Influence of Gross Hematuria on the Progression of Autosomal Dominant Polycystic Kidney Disease

Alma Idrizi, Myftar Barbullushi, Margarita Gjata, Alketa Koroshi, Arjana Strakosha
Department of Nephrology, UHC "Mother Teresa", Tirana

Introduction

Gross hematuria has been commonly reported in autosomal dominant polycystic kidney disease (ADPKD) (1). It is not only common but it can trigger the diagnosis in 13% to 23% of adult ADPKD subjects (2), influencing to renal dysfunction (3, 4). In a longitudinal study we evaluated the influence of gross hematuria to the progression of renal failure in ADPKD patients.

Patients and methods

100 ADPKD patients (mean age 48.5 ± 12.2 years) were studied for 5 years. Patients were considered to have gross hematuria if they gave a history of observing blood in the urine and microhematuria if the urinalysis showed up to 5 rbc/hpf. Survival times were calculated as the time to renal replacement therapy or time of serum creatinine value up to

10 mg/dl. Kaplan-Meier product-limit survival curves were constructed, and log rank test was used to compare the survival curves.

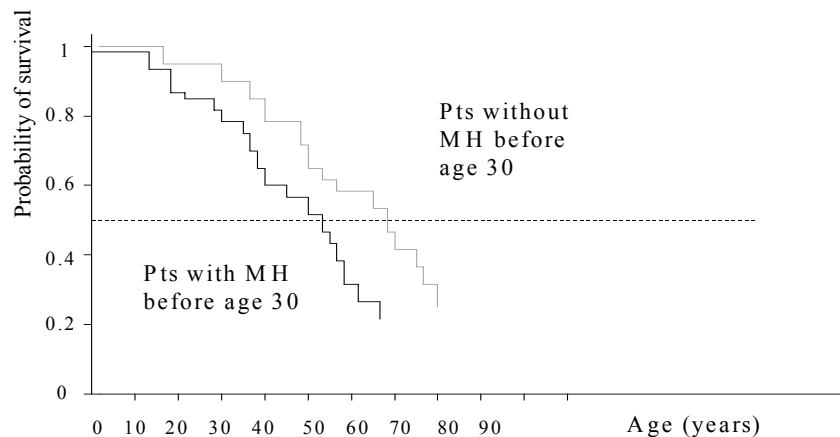
Results

Gross hematuria was present in 83 patients (83%): 45 pts were females (45%) (9 of them underwent to renal loss), and 38 were males (38%) (8 of them underwent to renal loss).

In 38 patients gross hematuria was diagnosed before age 30 (38%), while in 45 patients it was diagnosed after age 30 (45%).

Having at least one episode of gross hematuria before age 30 was associated with a worse renal survival than not having had such an episode (10-year difference in renal survival; $P < 0.001$) (Fig. 1).

Figure 1. Renal survival in pts with MH before age 30 vs. pts without MH before age 30



The difference in survival for those who had gross hematuria before age 30, compared with those who did not have this experience, was significant either for women (Fig. 2)

or men (Fig. 3) (respectively the difference in renal survival 9-year, $P < 0.001$ and 12-year, $P < 0.001$).

Figure 2. Renal survival in women with MH before age 30 vs. women without MH before age 30

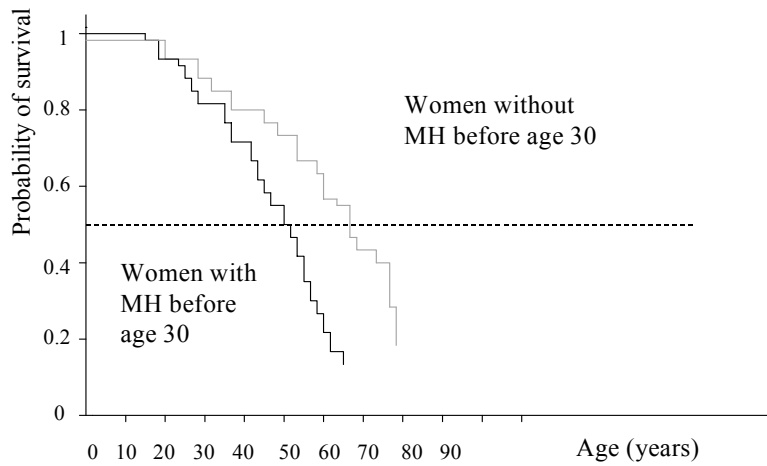
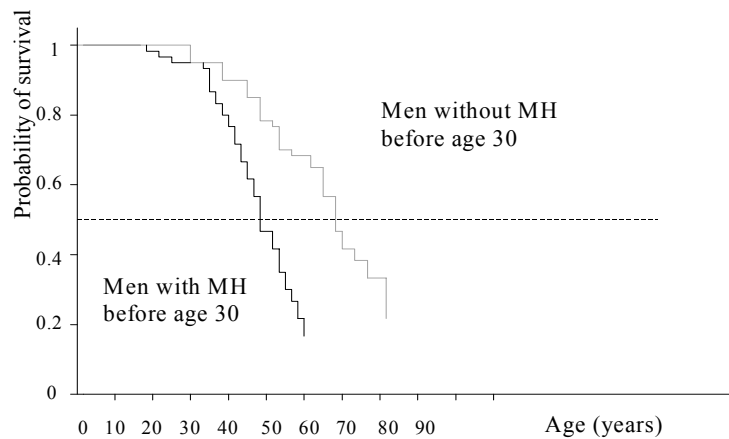


Figure 3. Renal survival in men with MH before age 30 vs. men without MH before age 30



Conclusion

In conclusion, these data suggest that patients with recurrent episodes of gross hematuria may be at risk for more severe renal disease since the mean age of the first episode of hematuria occurred on average at 30 years, considerably earlier than renal functional deterioration occurs.

References

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