

IS THERE ANY ASSOCIATION BETWEEN EYE COLOR OF HUMANS AND BLOOD IN URINE?**Muhammad Imran Qadir, Tayyaba Saher***

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ABSTRACT

Current study was purposed to check any linkage between eye color of human and hematuria. Its threatening to observe blood in urine. It is normal at times in certain conditions but mostly dangerous as it may be an indication about problems related to urinary system. This blood indicates gross hematuria. Kidneys or some other urinary tract parts let the blood cells pass into the urine in hematuria and cause urinary tract infections, kidney stones and some other kidney infections. Eye color is a hereditary trait which is affected by more than one genes. the major two genes involved are OCA2 and HERC2. Colored part of the eye is called iris. Urine analysis was performed to check hematuria. Hematuria was observed in urine samples of males and females with different eye colors with help of dipstick and results obtained were statistically analyzed. It was concluded that no association was observed in eye color of individuals and presence of blood in their urine.

Keywords: Hematuria, Iris, Urinalysis, Urinary tract infections.

No: of Graphs: 06**No: of References: 10**

INTRODUCTION

It's threatening to observe blood in urine. It is normal at times but mostly dangerous as it may be an indication about problems related to urinary system. This blood indicates gross hematuria and its treatment is dependent on its cause. Red, pink or light brownish color of urine is observed in hematuria because of presence of red blood cells. Very little amount of blood cells is broken down in hematuria and bleeding is usually not painful but if blood clots are present, their passing is difficult associated with pain and these are some common symptoms of hematuria. Change in urine color may also be due to some diet or drugs like laxatives etc and it becomes normal after some days. Urine with blood is apparently different and it's good to see a doctor. Kidneys or some other urinary tract parts let the blood cells pass into the urine in hematuria and cause urinary tract infections, kidney stones and some other kidney infections. When bacteria enter the body via urethra, they cause urinary tract infections because of their multiplication in the body. The minerals present in concentrated form of urine often cause crystal formation on kidney or bladder walls leading to formation of stones which become harder with time and are often removed by surgery. Older people with 50 years of age have greater chances of hematuria because of enlarged prostate gland and if kidney diseases are inherited in a family, they also have more chances of hematuria.

Eye color is a hereditary trait which is affected by more than one genes.

Common eye colors are green, black and blue. Other less common colors are grey, hazel and other multiple combinations. It was observed that almost 16 genes help to determine the eye color in humans, however, the major two genes involved are OCA2 and HERC2, both of these genes are located at chromosome number 15. Eye color vary in range from darkest shade of brown to lightest shades of blue. Colored part of the eye is called iris. The three pigment colors present in iris of the eye determine the eye color and it depends upon their proportion and the outward appearance of the iris.

Current study was purposed to check any linkage between eye color of human and hematuria.

MATERIALS AND METHODS

Test for Hematuria

Urine analysis was performed to check hematuria. Samples were taken and a dipstick was used and the colors appeared on dipstick were compared with the standard parameters and values were noted for all subjects. Important hygienic measures were strictly observed during the whole process.

Project Designing

A protocol was designed first to check hemolysis in urine of all subjects, as described above. A total of 110 students from Institute of Molecular Biology and Biotechnology, Bahauddin Zakariya University, Multan participated in this

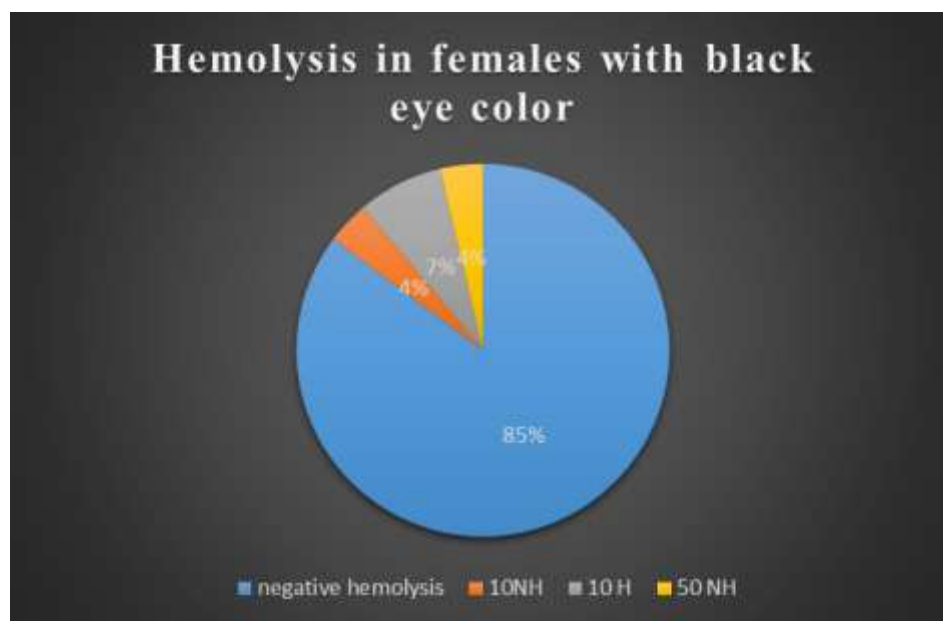
research willingly. Their samples were collected and urine analysis was performed along with noting of their eye color.

RESULTS AND DISCUSSION

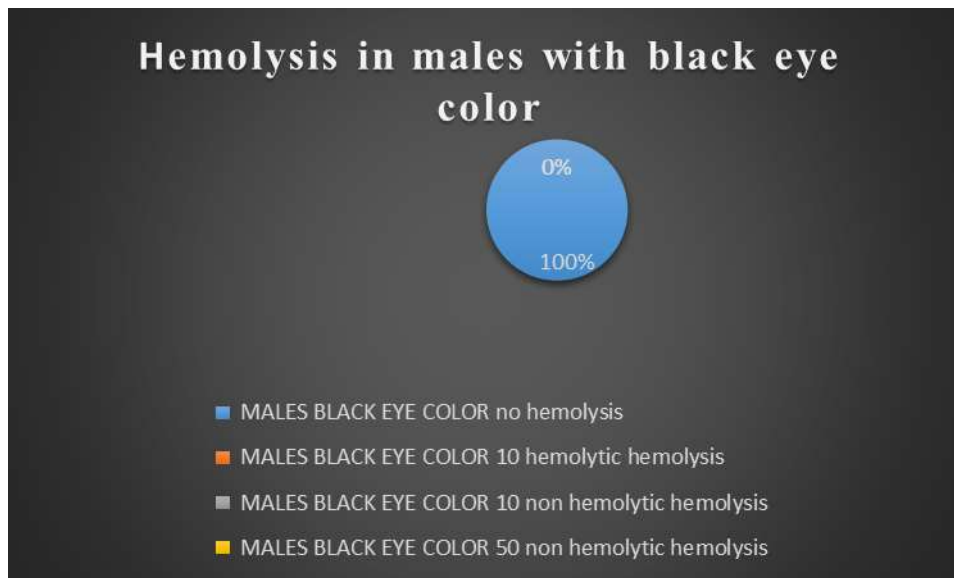
Hemolysis was observed in urine samples of males and females with different eye colors and results obtained were noted and graphs were drawn for comparison. The following graphs represent hemolytic percentage in persons with different eye colors. Common terms used in these graphs are negative or zero hemolysis indicating no breakdown of red blood cells in urine samples, 10H, 50H and 250H are values indicating hemolysis and NH values indicate non-hemolytic values.

Graph 1 concludes that 85% of females having black eye color have negative

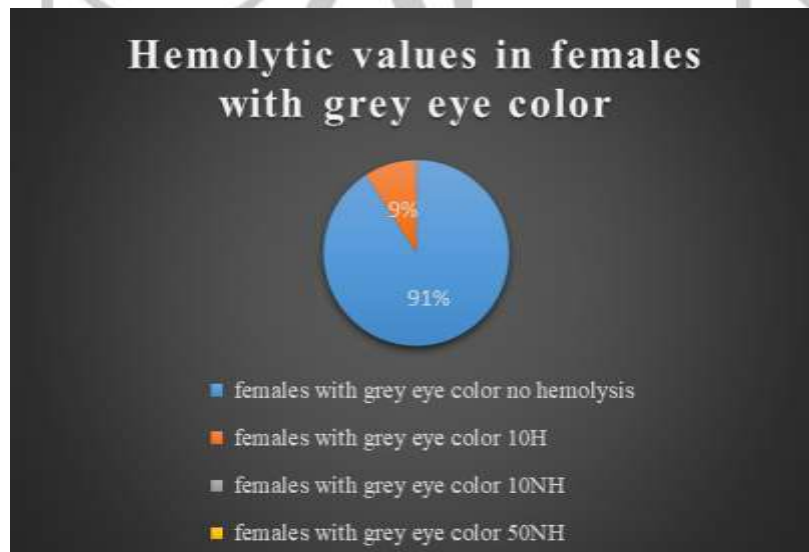
hemolysis value means there appeared no blood in their urine and it's a sign about normal break down of RBCs in blood. While 7% females have 10NH value and remaining 4% have 10H and 10NH value for hemolysis. Graph 2 explains that all males with black eye color have no blood in their urine and there is normal RBCs breakdown in their blood. Graph 3 represents that 91% of females having grey eye color have negative values for hemolysis means they had no blood in their urine while remaining 8% had 10H hemolytic value. Graph 4 shows that about 67% of males with grey eye color had negative hemolytic value and other 33% had 10H hemolytic value. Graph 5 tells that 89% of females with brown eye color had no urine in their blood and remaining 11% had 10H hemolytic values. Graph 6 suggests that 67% of males with brown color of eyes had no hematuria and 33% had 10NH hemolytic values.



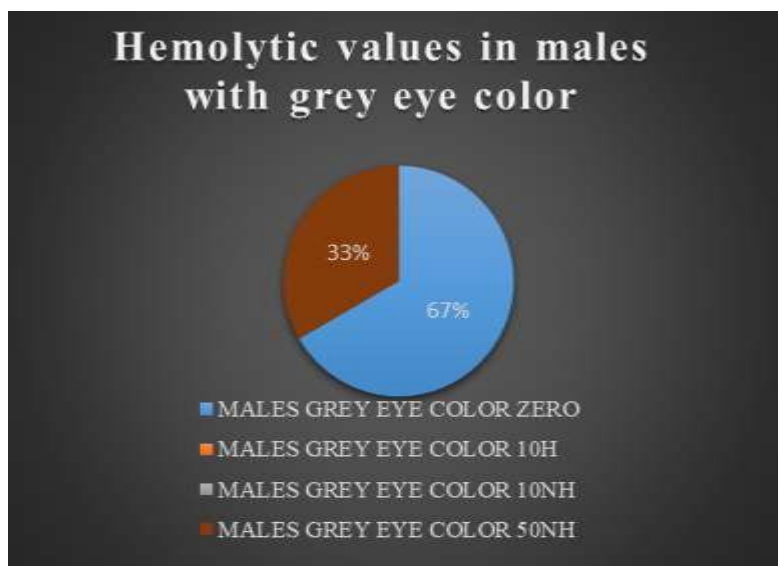
Graph1: Percentage of hemolysis in females with black eye color



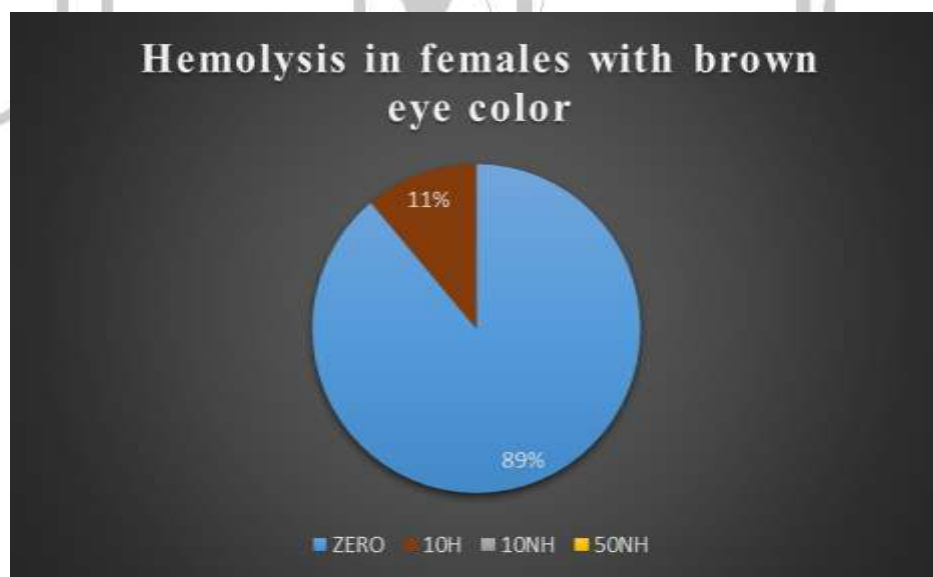
Graph 2: Percentage of hemolysis in males with black eye color



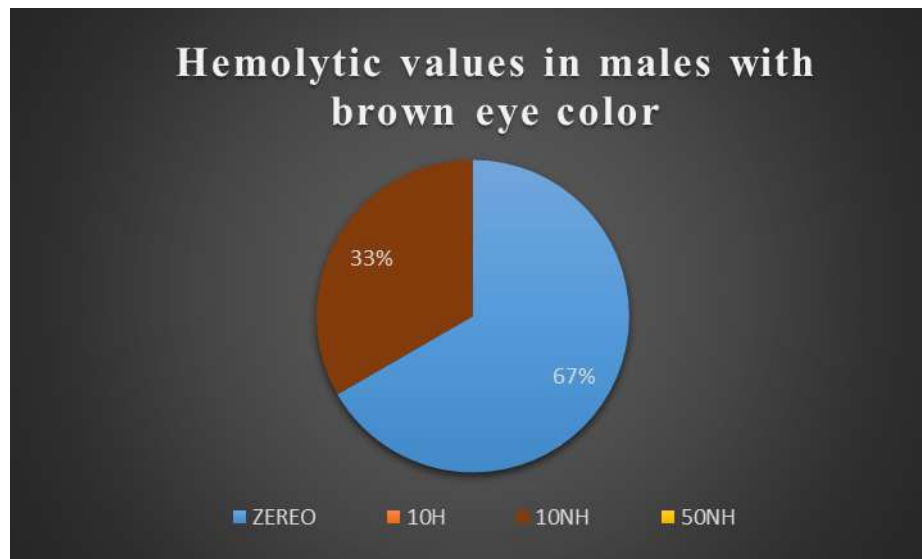
Graph 3: Hemolytic percentages in females with grey eye color



Graph 4: Hemolytic percentage in males with grey eye color



Graph 5: Hemolytic percentages in females with brown eye color



Graph 6: Hemolytic percentages in males with brown eye color

CONCLUSION

It was concluded that no association was observed in eye color of individuals and presence of blood in their urine.

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