



Correlation Between Presence of Leukocytes in Urine with Aquaphobia



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Abstract

The people having aquaphobia show different responses when comes in contact with excess water like anxiety disorder. To treat these types of disorders some medicines are prescribed to patients. Antiepileptic drugs are used to reduce those responses. A drug Carbamazepine is widely used for this purpose. Leukocyturia occurs when more than 5 WBC's are found in urine. This increase in number indicates infection of urinogenital tract. Urine will be cloudy in appearance. To check that there is a relation between excess water phobia and increase in leukocytes in urine, 100 samples of urine were collected from students of Institute of Molecular Biology and Biotechnology, Bahaudin Zakariya University, Multan, Pakistan. These samples were analysed by examination techniques like dipstick test. Results showed that 84.6% of males having leukocytes in their urine had excess water phobia. 73.3% of females having leukocytes in urine had excess water phobia.

Keywords: Anxiety disorder; Antiepileptic drugs; Leukocyturia; Dipstick test

Introduction

Aqua phobic persons have a fear from excess water. They can be cured by therapies. Therapies gives good results when tried with some medication. Drugs are available to overcome the responses. Anticonvulsant drugs are used against anxiety [1]. They control the level of anxiety. Antiepileptic drugs (AED) are used to control or treat disorders. During such responses, fear circuits are activated. AED's play role in reducing the level of this activation. Carbamazepine (CBZ) is a drug which affect the sodium-channel [2]. Sodium-channels are involved in activation of response given by neurotransmitters. This drug also blocks the calcium-channel. These two actions of CBZ are crucial in controlling anxiety disorders.

Leukocyturia is presence of leukocytes in urine [3]. Large number of leukocytes is present in blood but less are present in urine. In men, up to 2 WBC's are present per hpf. In women, less than 5 WBCes are present per hpf. These cells protect our body against infections. Increased number of leukocytes in urine indicates that there is an infection, particularly bacterial, of urinary tract or in kidney. High level could be due to cancer which can be prostate or bladder. There are some signs like cloudy urine and pain during urination and many others which show that leukocytes could be present. Urinalysis is done to check for presence of leukocytes. Firstly, its color is checked and

then followed by its examination. For its treatment, antibiotics are given usually. If a person consumes more water than normal, it will also be effective.

Materials and Methods

Materials Required

For urinalysis, a jar, urine sample, microscope and a kit for dipstick test were needed.

Collection of Sample

A clean-catch sample was taken. The genital area was cleaned by using wipes to get a clean sample. The samples were taken in a jar. The jar should be tightly packed.

Visual Examination

Samples were looked by the naked eye. In this examination, the color of samples was observed. When leukocytes were present more than the normal then the urine looks cloudy in appearance. The smell was also pungent.

Dipstick Test

The sample was then analyzed by dipstick test. The Strip was firstly put inside container. It was dipped for at least 90-120 seconds. Then it was removed from container. Excess of

urine was shaken off the strip. After 2 minutes, color of strip was observed. Color of strip tells number of leukocytes in the sample (Figure 1).

Microscopic Examination

Samples were subjected to microscopic analysis. Through observation, reason of increase in number of these cells can be checked.

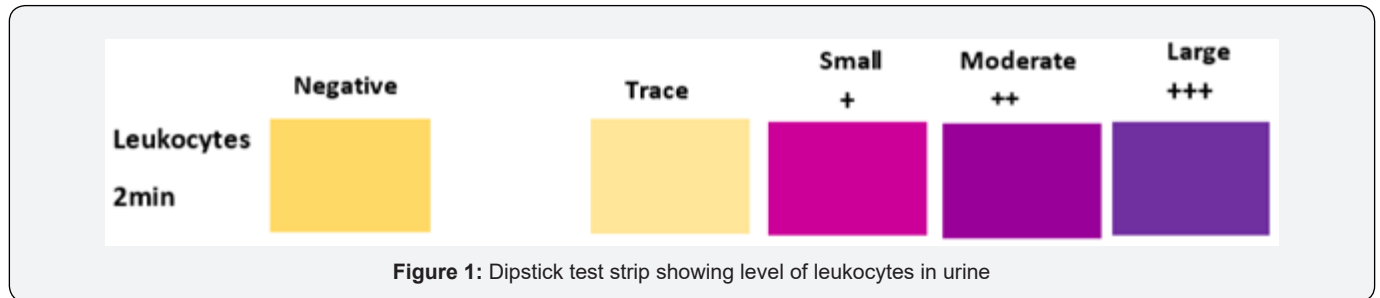


Figure 1: Dipstick test strip showing level of leukocytes in urine

Results and Discussion

The results collected by examination of 100 samples showed that 33 people have aquaphobia and increased number of leukocytes are found in their urine. While, 10 people don't have aquaphobia but leukocytes in excess number are found in their samples. 38 individuals have an excess water phobia, but

leukocytes are present in normal number in their urine samples. After conducting experiment of analysis of urine, it is found that the aqua-phobic persons have increased level of leukocytes in their urine when they are exposed to excess of water. In 84.6% of males and 73.3% of female's urine samples, who have aquaphobia, positive leukocytes are present (Table 1,2).

Table 1: Relation of leukocytes in urine with excess water phobia.

Gender	Excess water phobia		No excess water phobia	
	Leukocytes in urine present	Leukocytes in urine absent	Leukocytes in urine present	Leukocytes in urine absent
Female	22	29	8	17
Male	11	9	2	2

Table 2: Relation of positive leukocytes in urine with excess water phobia.

Gender	Positive leukocytes in urine	
	Excess water phobia	No excess water phobia
Male	84.60%	15.40%
Female	73.30%	26.40%


Conclusion

It is concluded that there is a relation between aqua-phobia and increased number of leukocytes in both males and females. There may be a genetic relation between excess water phobia and presence of leukocytes in urine e.g: single nucleotide polymorphism.

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