

Urine analysis of the 20th century Ottoman royal palace members and their interpretation: samples from 'Prime ministry Ottoman archives

Urine analysis from Ottoman archives

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ABSTRACT

We searched the Ottoman Archives of the Prime Minister's Office to find out whether there was any document in nephrological diseases. We have unearthed 19 records of urinalysis and their interpretation, dates back to the 1906. Only three of them were 24-hour urine, while the others were spot urine samples. All of these analysis had been made in Hamidiye Etfal Hospital Chemistry Laboratory in Istanbul. Although most of the patient names did not appear on the records, only a few important names and their chief physician had been written in some documents.

We could not find neither a prescribed treatment nor a medical advice regarding to these analyses, except one. Based on the information provided in this document, we may deduce that this analysis was belong to an elite person in Palace. It has been noted that urine density was 1026, albumin was trace, and the amount of urea was high. There was abundant leukocytes, calcium oxalate crystals, and epithelial cells on microscopic examination, possibly due to urinary tract infection. After this analysis, the physician suggested him to stay away from red meat, spinach and fresh beans for a while, and instead consume white meat, such as chicken and fish, drink lots of milk, and have a regular exercise.

It should be appreciated that all above urinalysis made by manual methods in Hamidiye Etfal Hospital, founded by Sultan Abdülhamid Khan II for the memory of her daughter. These detailed urinalysis at 1906 show that the Khan followed new developments in medicine and encouraged the physicians to apply them.

KEYWORDS: Ottoman Archives, Urinalysis documents, Ottoman

Introduction

During the Ottoman Empire period, the developments in Western medicine were closely followed and tried to be applied in the health area. Although archives of documents belong to the last years of the Ottoman Empire has been started in 1846, systematic access to these documents are possible after the establishment of the Ottoman Archives of the Prime Ministry in İstanbul, in 2013.

We searched the Ottoman Archives of the Prime Minister's Office to find out whether there was any document regarding nephrological diseases. We have unearthed 19 records of urine analysis, and their interpretation, dates back to the 1906 (1). All of them were done in the Hamidiye Etfal Hospital, founded in 1899 (Figure 1) (2) This is the first hospital *built for the care of children* during the Ottoman Empire period.

Figure 1



Hamidiye Etfal Hospital outpatient rooms, 1899.

The Brief History of Hamidiye Etfal Hospital

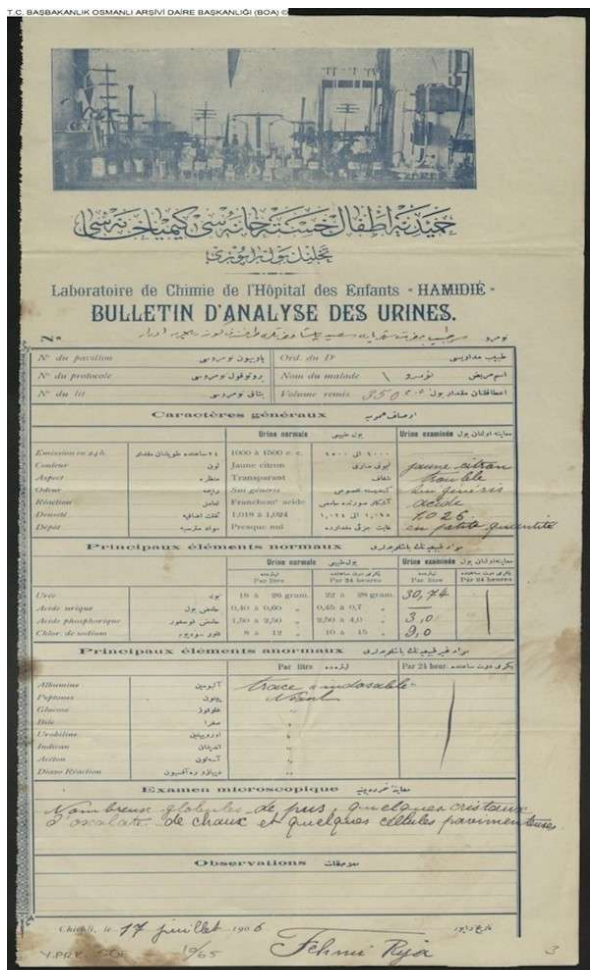
The daughter of Abdulhamid Khan II, Hatice Sultan, was struggling with diphtheria, and the Palace physicians' could not diagnose the disease. While the situation of her was getting worse, Dr. İbrahim Bey, a talented physician awarded as "Major" because of the mastery and skills in medicine, just returned from Germany, had been invited to palace. He examined the Hatice Sultan who was at the point of death, and diagnosed her as "eklampsia". Upon the order of the Sultan to him 'tell the truth', he said that there was no hope for her, and the lady sultan died after that day. Abdulhamid Khan II strongly influenced by her daughter's death, and said that "My child did not survive. Who knows how the poor children have been taken care of in other places. Let's built a hospital, thus, at least many fathers would not have burning heart, like me". He invites Dr. İbrahim Bey to the palace and wanted to make a charity in memory of her daughter. At that time, a mosque, school or fountain was preferred for this purpose. While the Sultan was thinking to build a mosque, Dr. İbrahim Bey said that a 'Children's Hospital' in the name of Hatice Sultan would bring greater benefits. Since there was no hospital for children in the Ottoman State, Hatice Sultan would be remembered with goodness until the Day of Judgment because of the cured poor children in that hospital. Abdulhamid Khan II said to think about it, and then made his decision at that night. The next day, he invited him to the Palace, and said that there was a plot in Şişli for

children’s hospital, just see the place, if appropriate, immediately start to construction... (2)

Urinalysis Documents

Only three of 19 urinalysis in that archives mentioned above, were 24-hour urines, while the others were spot urine samples (1). These analysis had been made in Hamidiye Etfal Hospital Chemistry Laboratory by manual methods in Istanbul. Almost all parameters had been done in each sample. Although most of the patient names did not appear on the records, only the names of elite ones and the chief physician had been written in some documents. We could not find neither a prescribed treatment nor a medical advice regarding to these analyses, except one (Figure 2).

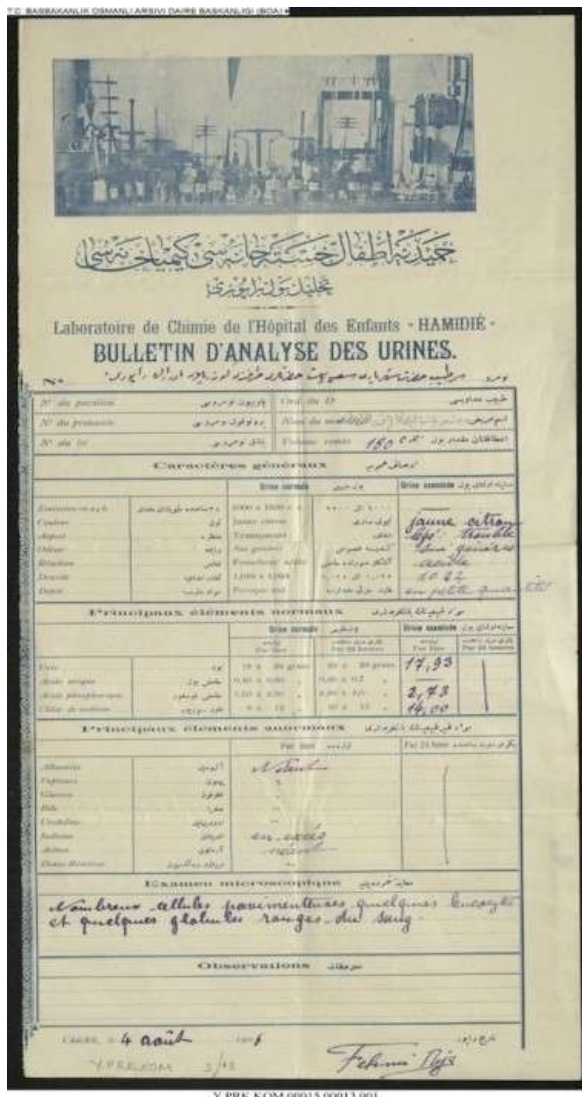
Figure 2



Based on the information provided on this document, it has been deduced that this analysis was belong to one of the important ones. Report date was 17 July 1906, and the physician was Dr Fehmi Riza bin Muhammed. It has been noted that density was 1026, albumin was trace, and urea was 30,74 g / L (N: 22-28). There was abundant leukocytes, several calcium oxalate crystals, and epithelial cells on microscopic evaluation, showing that he had urinary tract infection, and the amount of urea was high. After this analysis, in an another page, it has been written that the physician suggested him to stay away from red meat, spinach and fresh beans for a while, and instead consume white meat such as chicken and fish, drink lots of milk and have a regular walking exercise.

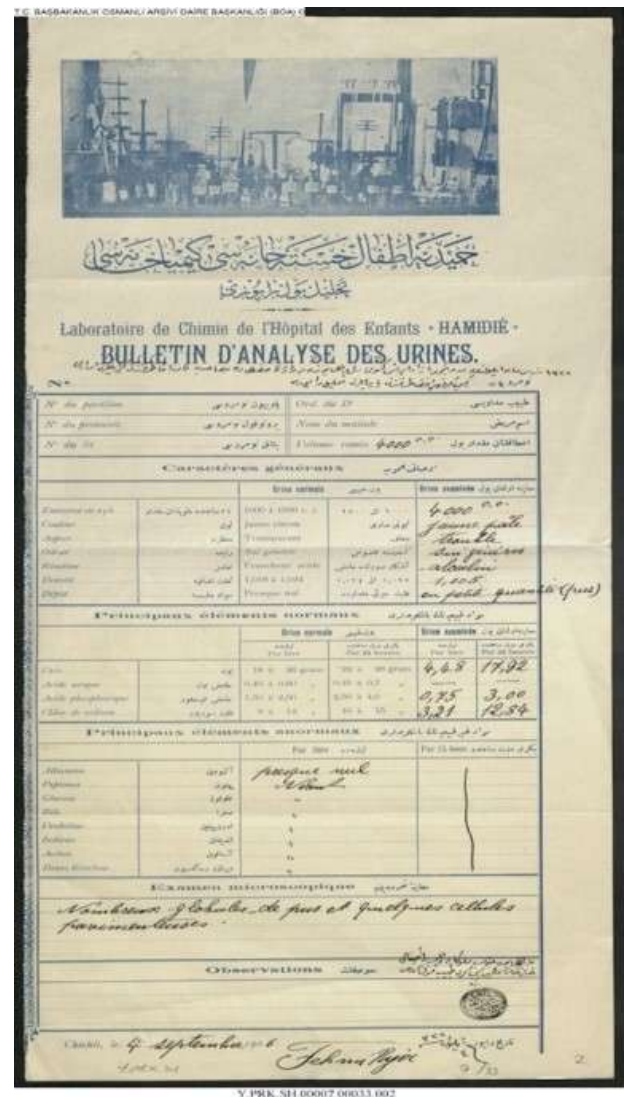
Of the 19 urine analyzes, five were demonstrating urinary tract infections, while three of them were compatible with pyelonephritis (1). Some examples of urinalysis are as follows (Figures 2, Figure 3, Figure 4);

Figure 3



Report date of this document was 4 August 1906, and it showed that there was a few leukocytes, erythrocytes, and a lot of bladder epithelial cells on microscopy. There were no comment on it.

Figure 4



The report date of this document was 4 September 1906, and the physician was Dr Fehmi Riza bin Muhammed. This urine collected 24 hours was 4000 ml, density was below 1005. It has been noted that there was a lot of leukocytes, and a few bladder epithelial cells on microscopic evaluation without any comment.

The presence of polyuria, hyposthenuria, and a lot of leukocytes on microscopy (Figure 4) may suggest that this patient had pyelonephritis.

The report date of other 24 hours urine sample was 16 September 1906, and the physician was Dr Fehmi Riza bin Muhammed. It has been noted that the amount was 3500 mL. Colour was light yellow, appearance was cloudy, smell was specific, reaction was alkaline, density was 1005, together with a little aggregate including pus. Urea: 10.68 g/L, phosphoric acid: 2.62 g/L, NaCl: 9.20 g/L, and trace albumin. On microscopic examination: a lot of leukocytes, a few epithelial cells, a few calcium phosphate crystals.

Although there is no information about the clinical findings, and no comment about this analysis, evaluation of above data may suggest the pyelonephritis.

Conclusion

It should be appreciated that, all urinalysis mentioned above made by manual methods in 1906. Sultan Abdülhamid Khan II founded Hamidiye Etfal Hospital in memory of her little daughter, died from diphtheria. It is the *first hospital built for the care of children at that time*. It shows that the Khan followed new developments in medicine and wanted to bring them to his country.

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