The Ottoman Empire met cholera in Istanbul on July 26th, 1831. The epidemic went on slowly with 12 casualties by day, but the daily number of death increased to 120 between August 3-5th. This number exceeded 200 per day between August 5-10th, which thrilled enormously the Capital. The epidemic spread only at Kadikoy district at Anatolian side by killing totally 5-6 thousand people (12).

Second epidemic started when a sanitary attendant died of cholera on October 25th, 1847. Going along more slightly than the previous one, the second cholera epidemic caused to kill 4,275 out of 9,237 by November 1849 (24).

The third wave came along with the French troops in the allied forces from Marseilles embarked in Istanbul because of the Crimean War (1853-1855). Cholera spread from the French soldiers to the British and the Ottoman troops around the city (3).

Istanbul witnessed the fourth cholera epidemic in 1865. This epidemic was the extension of fourth cholera pandemic started in Singapore two years before and spread to the West by means of seaways and railroads. It reached to Suez Canal on May 21st, 1865, and then to Jeddah, and to Alexandria in the beginning of June (7) (25), then to Istanbul in late June. This study aims at evaluating cholera epidemic that got hold of Istanbul in 1865.

GREAT CHOLERA
Due to the cholera epidemic in Alexandria, quarantine rules were in operation over the all the main roads and seaways going to and coming from Egypt. Shortly after the Ottoman frigate Muhbir-i Surur (Messenger of Joy) set sail from Egypt for Istanbul on June 28th, 1865, some of the crew died and many more became ill on board. Without stopping at any port, the ship Muhbir-i Surur arrived in Istanbul and cast anchor at Kasimpasha harbour five days later on. According to the quarantine rules, the doctor charged in the ship was bound to inform the state officials as soon as the ship went into Istanbul. But he did not report the cholera cases to the officials because Osman Pasha and the commander of the frigate pressured him not to disclose the disease. The ship was reported as clean and eluded from the quarantine rules. Shortly after disembarking on Kasimpasha port from the Muhbir-i Surur, twelve sailors from the crew were hospitalized at Naval Hospital because of diarrhea. Those sailors who died at that night were diagnosed as cholera. In two or three days' time cholera was speedily spread among the sailors working at Kasimpasha Arsenal who lived in very bad conditions and ran out of money. Cholera rapidly spread all over the city. On Sunday morning, July 16th, 1865, the families began to leave the city by taking the bodies of their relatives. All districts of Istanbul were moaning and gripped in the claws of the disease on 10th of August. The city became almost a mortuary (29) (12). The commander and the doctor of the frigate Muhbir-i Surur could have only a narrow escape. During the epidemic, Cyrus Hamlin, one of the founders of the Robert College in Istanbul, reports that everything stopped at the Capital and people were only busy with burying the bodies of their beloved ones (6).

At a time when the daily mortality went over one thousand, the great Hodjapasha Fire broke out in the beginning of September by devouring 10,000 houses in the city. This Fire nearly disinfected the City and the epidemic died down in a week after the Fire. The number of losses at the
epidemic were nearly thirty thousand and, this disaster went into the collective memory of the people as "the Great Cholera of Istanbul" (14).

THE FACTORS FACILITATING THE SPREAD OF CHOLERA IN ISTANBUL
Dr. Louis Mongeri who was in charge in the Ministry of Police for taking necessary precautions against the "Great Cholera" epidemic, wrote a book about his observations and views concerning this duty. He told in his book that the communities (millets) composing the Ottoman society had their own way of life, moral values and customs, which unfortunately facilitated the spread of cholera. For instance, Muslims preferred to live in spacious, large wooden houses having big windows and with a backyard, thinking that this was healthier. Their houses were supplied with hammam (bath), running water or a well. As for the toilet which was extremely important regarding cholera, wealthy people used water closet à la turca supplied with abundant water. The poor people could not take care of cleanliness and hygiene in their humble houses. Since there was no covered drainage system in the city, the sewer holes were a very serious threat to public health since they were open. Muslim community was settled in the nice valleys of the Capital. Christians, Armenians, Greeks and Jews were residing on the slopes of the city overlooking the Bosphorus. Their houses were large but very close to each other. Toilets were very small and dirty. European families used separate water closets as they did in their own countries. The toilets of the offices were in a terrible situation. Graveyards, slaughterhouses, tanyards, dyehouses, workshops were in a very bad, inconvenient, unhealthy condition. The city was surrounded with walls letting the heavy traffic in and out through the twenty-four gates. That busy traffic caused a milieu very suitable for the spread of cholera (10).

PRECAUTIONS AGAINST CHOLERA EPIDEMIC
Precautions against cholera could not be immediately taken in the early days of the epidemic, and the Quarantine Organization (Council of Health) were able to declare the rules of quarantine only in the midst of July 1865 (17) (18). When the number of losses began to increase, Kececizade Fuad Pasha, the grand vizier, held a meeting with the members of Quarantine Organization and with the authorities of the Imperial School of Medicine in order to discuss the precautions to be taken against cholera. During the meeting it was decided to set up an ad hoc commission of Public Health (Hifzisihha Meclis-i Muvakkati) composed by Dr. Pisti, Dr. Litzika, Dr. Zoeros, Dr. Stampa, Dr. Metaxa, Dr. Oksa, Dr. Ferro, Dr. Triandaphilides, Dr. Bolonaki, Dr. Fleury and Dr. De Castro. The commission determined the doctors to work on the fight against the epidemic and came into contact with the Minister of Military Health Affairs. Ambulatory hospitals, dispensaries and first aid units were set up in several districts to accede medical care and render service where needed. Beds were assigned for cholera patients at four major hospitals in the city. Furthermore two hospitals specific to cholera patients were founded at Scutari. 20-30 bedded small clinics were opened at small villages alongside with the Bosphorus. But unfortunately all these hospitals proved to be insufficient to cover the heavy demand for medical care. Neither the number of physicians, nor pharmacists and nor pharmacies could meet the increasing need. Some of pharmacies had to be closed because of the lack of personnel. The ad hoc Commission ordered that the poor patients were to be examined gratis whose expenses would be compensated after the epidemic in case that they documented their situation by medical report. This order was strictly kept. Ambulatory pharmacies were set up in needy districts and the expenses of the hospitals and pharmacies were fully covered by the State in the end of the epidemic (20) (23) (10).

Another ad hoc committee of sanitary precautions (Tedabir-i Sihhiye Komisyonu) was constituted to discuss the march of cholera every day. Under the presidency of Mehmet Pasha, the Minister of Police, that committee was composed of the most renowned doctors of Istanbul at that time such as Drs. Mongeri, Naranzi, Galenzi, Paravioale, Salih Bey, Stepan Bey ve Zographagos. This committee officially reported and recorded all cases of cholera (10). All the decisions made by this committee were announced publicly at the daily newspapers, entitled as "Official Rules", then (16). First of all, the preventive measures and preliminary symptoms of cholera were announced
Cleanliness was introduced as the best medicament for cholera and the cleaning of the streets by the police officers and soldiers were exemplified to that. The Minister of the Police announced the Sultan's acknowledgements to all personnel helping to clean the streets and aiding the patients (27). The sale of some fresh fruit and vegetables were prohibited (19). Goat meat, lamb, beef, beefsteak, chicken stew, fresh fish; vegetables such as bean, artichoke, potato, yoghourt and cream were not recommended to eat. Watermelon, melon, grapes, and cucumber were declared harmful. Despite all those restrictions, some people felt free to grow and eat fresh cucumber at their own gardens basing on their belief in fate (6). People were again permitted to grow and eat all those vegetables and fruit when the epidemic was over (22).

It was recommended to use the disinfectant solution of copper sulphate at toilets and poorhouses. Limestone and coal were sprinkled over the vomit and faeces of the cholera patients and the whole material was disinfected by copper sulphate. All the belongings of the dead such as clothes, sheets etc. were burned down if the casualties were rich. If they were poor, their remaining clothes or other materials were washed up and kept aside (28). In order to prevent the spread of cholera, burials at the graveyards in the neighbourhood was prohibited and people were allowed to bury the corpses only at the cemeteries determined by the Municipality (21).

For overcoming the horror capturing the city, some individual therapeutic efforts were observed and reported. For instance, the anticholeric medicament of Vincent Pêche, a pharmacist in Istanbul, proved to be effective in many patients. Also a teacher of the Robert College, missionary Cyrus Hamlin (1863-1877) administered, together with his colleagues George Washburn and Albert Long, two composite drugs on cholera patients at their daily visits to the houses in Bebek which was pretty far from the city centre. "Dr. Hamlin's cholera drug" became widely reputed in Bebek and Rumelihisari regions and it was narrated from generation to generation as a great hope for the sick (1). During his stay in Istanbul, Hamlin witnessed several epidemics in the Capital and wrote down that the most of the casualties of cholera were from Muslim and Jew communities: former because of the fatalistic viewpoint and way of life, indifferent to the daily affairs; and the latter because of filthiness (6).

AFTERMATH

After the cholera epidemic, the ones participated in the fight against disease were decorated with silver "Cholera Medal" (15), among whom there was also Dr. Zographagos. (2) (13) (5).

In 1866, a comprehensive international health conference was held in Istanbul by the attempts of 17 European countries claiming that the fourth cholera pandemic had been originated from Hedjaz by killing many people. The meeting was called the Istanbul International Sanitary Conference presided by Salih Effendi (1816-1895), the Chief Physician. The Ottoman delegate in the Conference was Dr. Bartoletti. Dr. Antoine Fauvel (1813-1884), the professor of internal clinic at the Imperial School of Medicine attended the conference as delegate of France. Fauvel published the works of that Conference in his book Le Choléra Etiologie et Prophylaxie (Paris 1868) by dealing with the Great Cholera epidemic in Istanbul (1865).

The main objective of the Conference was to protect Europe from cholera epidemic coming from the East. Delegates of the European countries regarded the Ottoman State and Iran as walls protecting the spread of the disease. Among the decisions taken at the Conference it was clearly stated that the origin of cholera was not Hedjaz, but the Gange valley in India; and it was emphasized that the pilgrimage to Mecca from Muslim countries aggravated the prevalence of the disease (29). Therefore, the Ottoman State had to undertake heavy political and economical responsibilities (8) (9).

Due to this epidemic, the Quarantine Organization enacted a new regulation (1867) that remained in force for many years (11).

The sisters of St. Vincent de Paul who came to Istanbul to help the sick people treated patients at a shop they hired in Kuledibi at Beyoglu (Pera) district. When the epidemic was over, the sixth
district of the Istanbul Municipality rented this building and transformed it into a hospital as the first clinic of the Municipality named after the district of Beyoglu (1865) (26).

One of the measures taken during the epidemic was the prohibition of the burial at the graveyards within the city. After the epidemic, "Regulation concerning the procedure of burial at the Capital and the adjoining three districts, and at the Bosphorus" was put into force on February 20th, 1867, and enacted on May 30th, 1869. By that regulation it was prohibited to bury corpses at the courtyards of mosques, churches, and in other residential parts of the municipal areas including the old city, Bosphorus, the adjoining main districts (Galata and Scutari) (4).

CONCLUSION

Breaking out by the end of June and dying down in the early days of September 1865, the Great Cholera Epidemic devastated Istanbul, the Capital of the Ottoman Empire by killing thirty thousand people in that short period of time. During the epidemic, official committees, founded at the Quarantine Organization and at the Ministry of Police, directed the measures to take against the catastrophe according to the contemporary medical techniques of the time. Alongside with those precautions, another disaster paradoxically helped people to get rid of the disease. The huge fire at Hodjapasha terminated the epidemic almost by disinfecting the city in as much as destroying the neighbourhood terribly.

Although the International Istanbul Sanitary Conference (1866) burdened the Ottoman State with heavy economical and political duties, it produced some positive results too, such as the establishment of the first municipal hospital, the enactment of a brand new regulation on health affairs, and the prohibition of burial procedure within the city.
40th International Congress on the History of Medicine

August 26-30, 2006
Budapest - Hungary

Proceedings I.