**Tuberculosis in the Ottoman harem in the 19th century**

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**Summary:** At least four of the sultans who ruled during the 19th century suffered from tuberculosis (TB), and probably many of the women and children in the harem too. Life there was crowded with low standards of hygiene, resulting in high mortality, especially among children. Infectious diseases were the main killers and TB was one of the many factors behind the decline and fall of the empire.

**Introduction**

Infections and epidemics have played a major role in history: The Black Death in Europe in the 14th century and the conquest of the Americas, when infections from Europe killed most of the original inhabitants. Tuberculosis (TB) has had a major impact on history.1–3 The Ottoman Empire spanned three continents and lasted for more than 500 years. Early Ottoman medical documents are unavailable since the first medical school did not open until 1827. The doctors before 1827 were Greek, Jewish and Iranian. The diagnosis of TB was made from physical symptoms – chronic cough, bloody sputum and night sweats – as described in the books of Hippocrates and the Cappadocian Aretaeus around 500–300 BC.

**The harem**

The harem, in Turkish Serraglio (home of happiness),4 was the private quarters of the sultan’s women and children.5 It was very crowded, with 200–1200 inhabitants6 (Figures 1–3). Sanitary arrangements and ventilation were unsatisfactory, giving optimal conditions for the spread of infectious diseases.

The women of the harem were slaves, always foreigners because enslavement of born Muslims is forbidden by Islamic law, and booty from wars (a source that dried up after the 17th century) or acquired from slave markets. Most were Circassians, others Christians from Georgia, the Balkans and the Aegean Islands. The women started as concubines but a few advanced to favourites. If one of these gave the sultan a child, she could advance to one of up to six official wives. The mother of the sultan, Valide Sultan, was the most powerful woman in the harem. The chief managers of the harem were the black eunuchs, castrated slaves brought from Africa.

**TB among the Ottoman sultans**

Table 1 lists the sultans during the 19th and at the beginning of the 20th century and Figure 4 shows their pedigrees.
Mahmud II (d. 1839) came to power in 1808. He suffered from TB, acquired from either his real mother, Nache de la Bozary, or his adopted mother, Aimee de Buc de Ribery. However, he died from an attack of delirium tremens due to chronic alcoholism. He had 19 sons and 17 daughters by 13 women, but only two sons and four daughters survived.

Sultan Abdulmecid I was the son of Mahmud II and came to power at the age of 16 in 1839 and died of TB aged 38. At least nine of his 18 women were infected and most of his children died young.

Sultan Abdulhamid II ruled the Empire from 1876 to 1909. He had a longstanding childhood ailment with fever and weight loss, both his parents had TB and he probably died from this disease.

Sultan Mehmet VI Vahdettin was another son of Sultan Abdulmecid I. His mother also died from TB. The last of the sultans, he was a heavy smoker. He was dethroned in 1922 and lived his last years in Italy. The autopsy showed the cause of death to be coronary thrombosis and the left lung was destroyed by TB.

TB in women and children of the harem

The first known case of TB in the harem was Martha Aimee du Buc de Ribery who was from a rich family. Sultan Abdulhamid II ruled the Empire from 1876 to 1909. He had a longstanding childhood ailment with fever and weight loss, both his parents had TB and he probably died from this disease.

Sultan Mehmet VI Vahdettin was another son of Sultan Abdulmecid I. His mother also died from TB. The last of the sultans, he was a heavy smoker. He was dethroned in 1922 and lived his last years in Italy. The autopsy showed the cause of death to be coronary thrombosis and the left lung was destroyed by TB.

Table 1: Ottoman sultans during the 19th and early 20th centuries

<table>
<thead>
<tr>
<th>Sultan</th>
<th>Government</th>
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<tbody>
<tr>
<td>Selim III</td>
<td>1789–1807</td>
</tr>
<tr>
<td>Mustafa IV</td>
<td>1807–08</td>
</tr>
<tr>
<td>Mahmud II</td>
<td>1808–39</td>
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<tr>
<td>Abdulmecid I</td>
<td>1839–61</td>
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<tr>
<td>Abdulaziz</td>
<td>1861–76</td>
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<tr>
<td>Murad V</td>
<td>1876</td>
</tr>
<tr>
<td>Abdulhamid II</td>
<td>1876–1909</td>
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<tr>
<td>Mehmet V</td>
<td>1909–18</td>
</tr>
<tr>
<td>Mehmet VI Vahdettin</td>
<td>1918–22</td>
</tr>
</tbody>
</table>

Figure 3: The room of the Valide Sultan (the sultan’s mother)

Figure 4: Pedigrees of Ottoman Sultans between 1757 and 1922
French family living on the Island of Martinique. Algerian pirates enslaved her in 1789 and she ended up in the sultan’s harem. She advanced to wife of Sultan Abdulhamid I\textsuperscript{14} and thereby became the adoptive mother of the future sultan Mahmud II.\textsuperscript{15} She died of TB at the age of 26.

Tirimujgan was one of the wives of Sultan Abdulmecid I and mother of Sultan Abdulhamid II. She died at the age of 29 from TB.

**Discussion**

After the defeat outside Vienna in 1683, the once powerful Ottoman Empire was never the same again. The decline accelerated in the 18th and 19th centuries due to internal problems, wars with Austria-Hungary and Russia, and liberation wars in the Balkans supported by the great powers. During these events the Empire faced epidemic infectious diseases, including cholera and plague originating from the Middle East and Persia. Documents on the prevalence of TB in the general Ottoman community do not exist but the incidence of TB must have been high. The incidence in the harem was probably even higher since we have not included doubtful cases.

In theory the sultans were absolute rulers. In the 18th century many were not educated and some were mentally unstable, due partly to the so-called cage life. From the days of Mehmet the Conqueror, fratricide, the killing of all brothers and other relatives who might have some claim to the throne, had been sanctioned by a fatwa in order to avoid civil wars. From 1603, instead of being murdered, presumptive dynastic rivals were confined in the so-called cage to await natural death or coronation. This was an important reason for the Ottoman Empire being at least 200 years behind the European states scientifically, economically and militarily. In addition, many conservative and religious groups stopped most reforms.

The harem was a closed and crowded area, even if luxurious. Hygiene and ventilation were unsatisfactory. Once TB bacilli entered, spread was unavoidable and, with most women and eunuchs coming from slave markets, this was only a matter of time. The high mortality might also be due to other diseases which, in the overcrowded rooms, could spread easily. The cases we have described here among the adults are well documented, with haemoptysis, loss of weight and other symptoms that point to a diagnosis of TB.

At least four sultans suffered from TB. An additional burden was the high morbidity and mortality of their women and children. Thus TB and possibly other infections were probably one of the factors behind the decline of the Ottoman Empire, even if other factors (including lack of education among the sultans and other leaders in the country, general resistance against reforms in the
army as well as civil life with serious economic consequences), were also major factors.

References and notes
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GLIMPSES

Waldenström’s syndromes

Jan Costa Waldenström (1906–96) (Figure 1) had a distinguished medical background. His grandfather, Johan, was Professor of Internal Medicine in Uppsala and his father, Henning, was Professor of Orthopaedic Surgery in Stockholm. Jan was educated at the Universities of Uppsala and Cambridge, and he also studied organic chemistry in the laboratory of the pyrrol chemist and Nobel Prize winner Hans Fisher at the Technische Hochschule, Munich. This background influenced his biochemical and metabolic approach to clinical medicine.

Jan was born in 1906 in Lund and eventually became Chairman of the University Department of Medicine in Lund after his professorship in Uppsala. He was one of the world’s great professors of medicine, one of the finest bedside clinicians and an outstanding editor of Acta Medica Scandinavica. His contributions to medical science led to his election to the foreign membership of the US National Academy of Sciences, the French Academy of Sciences and the Royal Society of Medicine. He received the Gairdner award in 1966, the Ehrlich Medal in 1972 and honorary degrees of many universities.

His name is particularly associated with several syndromes. Whilst a lecturer in Uppsala, he described five patients with bilateral parotid gland enlargement and bilateral uveitis due to sarcoidosis (Waldenström’s uveo-parotitis). In 1950, at a conference in Bad Kissingen in the Black Forest, he described a form of hepatitis that comprised a group of young persons, predominantly girls, during or shortly after puberty (Waldenström’s chronic active hepatitis). Subsequently other workers described it under various titles including chronic liver disease in young people, lupoid hepatitis, plasma cell hepatitis and active juvenile cirrhosis.

The development of the ultracentrifuge and electrophoresis apparatus enabled Waldenström to study globulins in various disorders. In 1943 he demonstrated the presence of large amounts of a high molecular weight globulin in the plasma and it was designated macroglobulin, IgM or YM. It was associated with excessive sedimentation, hyperviscosity, retinopathy, anaemia, bleeding and polyneuropathy (Waldenström’s macroglobulinaemia). His studies provided a secure platform for the clinical and biochemical features of patients with diarrhoea, flushing, skin changes and oedema associated with large quantities of 5-hydroxytryptamine (Waldenström’s carcinoid syndrome).

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Reference
1 Bjorkman S. In honour of Jan Waldenström’s sixtieth birthday. Acta Medica Scandinavica 1966;179(Suppl)