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DR AVRAM JOZEF VINAVER (1862-1915) – PIONEER OF RADIOLOGY IN SERBIA

DOKTOR AVRAM JOSIF VINAVER (1862–1915) – PIONIR SRPSKE RADIOLOGIJE

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Summary

Introduction. Dr Abraham Joseph Vinaver (1862-1915), a Jew from Poland, was a pioneer of radiology in Serbia. He graduated from the Faculty of Medicine in Warsaw (1887), but lived and worked in Šabac (the Kingdom of Serbia) since 1890. **Dr Abraham Joseph Vinaver - Career Development.** He procured the first X-ray machine and developed radiological service in Šabac five years after the discovery of X-rays. These were the beginnings of radiology in Serbia. He introduced the application of artesian wells. **Dr Abraham Joseph Vinaver – a Participant at the First Congress of Serbian Physicians and Naturalists, Belgrade 1904.** "The diagnostic importance of X-rays in lung disease, especially in initial tuberculosis" and "Five Years of Treatment by X-Ray Machines" were the first works in the field of radiology in Serbia by this author. **Dr Abraham Joseph Vinaver - Reserve Medical Officer in the Serbian Army.** During the Balkan Wars, he was a volunteer with the rank of major engaged in military corps and he participated in the First World War as well. He died of malaria in 1915 in Gevgelija. **"Dr Avram Vinaver"- Stanislav Vinaver.** His dedication to work during the typhus epidemics was put into verses of a poem by his son Stanislav Vinaver. **Conclusion.** Dr Avram Vinaver Joseph was a noble man with a great heart, who selflessly sacrificed himself for the Serbian people and Serbia. He gave his contribution to the development of health services in Serbia, both in peacetime and wartime conditions. Dr Abraham Joseph Vinaver laid the foundations for today's radiology in Serbia.

Key words: History of Medicine; Famous Persons; History, 19th Century; History, 20th Century; Radiology; Radiotherapy; X-Rays; Water Wells; Serbia

Introduction

Dr Avram Jozef Vinaver (1862, Warsaw - 1915, Gevgelija), a pioneer of radiology in Serbia, was a Polish Jew. He contributed to the development of health services in Serbia, especially Šabac, the region of Mačva and other regions, both in peacetime and wartime conditions (**Figure 1**) [1–6].

He received his primary and secondary education in his hometown, where he graduated from the Faculty of Medicine in 1887. Having acquired the academic title, Dr Avram J. Vinaver settled in Šabac in 1890, in the former Kingdom of Serbia, where he

Sažetak

Uvod. Doktor Avram Josif Vinaver (1862–1915), Jevrej iz Poljske, bio je pionir srpske radiologije. Diplomirao je na Medicinskom fakultetu u Varšavi (1887). Od 1890. godine živeo je i radio u Šapcu (Kraljevina Srbija). **Dr Avram Josif Vinaver – kretanje u službi.** Nabavio je prvi rendgenski aparat i razvio radiološku službu u Šapcu, pet godina po otkriću X-zraka. Bili su to počeci radiologije u Srbiji. Uveo je u primenu arterške bunare. **Dr Avram Josif Vinaver – učesnik Prvog kongresa srpskih lekara i prirodnjaka, Beograd 1904. godine.** „Dijagnostička važnost Rentgenovih zraka kod bolesti pluća, naročito kod početne tuberkuloze” i „Pet godina lečenja Rentgenovim zracima” bila su prva saopštenja iz oblasti radiologije u Srbiji ovog autora. **Dr Avram Josif Vinaver – rezervni sanitetski major srpske vojske.** Za vreme Balkanskih ratova bio je dobrovoljac sa činom majora angažovan u vojnom sanitetu. Učesnik je i I svetskog rata. Umro je od malarije 1915. godine u Đevdeliji. **„Dr Avram Vinaver” – Stanislav Vinaver.** O požrtvovanom radu dr Avrama Josifa Vinavera u vreme epidemije pegavog tifusa u Srbiji svedoči i pesma njegovog sina Stanislava Vinavera. **Zaključak.** Doktor Avram Josif Vinaver je bio čovek plemenitog srca koji se nesebično žrtvovao za srpski narod i Srbiju. Dao je doprinos razvoju zdravstvene zaštite stanovništva Srbije podjednako i u mirnodopskim i u ratnim uslovima. Doktor Avram Vinaver je postavio temelje današnje radiologije u Srbiji.

Ključne reči: Istorija medicine; Poznate osobe; Istorija 19. veka; Istorija 20. veka; radiologija; Radioterapija; X-zraci; Arterski bunari; Srbija

worked and lived with his wife Rosa (1871, Krakow -1942, Belgrade). They had two children, a son and a daughter. The son, named Stanislav, (March 1, 1891, Šabac, the Kingdom of Serbia - August 1, 1955, Niska Banja, the Federal People's Republic of Yugoslavia) was a writer, translator and erudite. Their daughter Mječeslava, whose nickname was Mječa, died at an early age (1898-1910).

Dr Vinaver spoke Hebrew, German, French, Polish, Russian and Serbian language. He participated in the Balkan Wars and World War II. After the victory of the Serbian army at Cer and the Battle of Kolubara, Dr Avram Jozef Vinaver arrived in Gevgelija with his

Abbreviations

TBC – tuberculosis

unit (Serbia, Former Yugoslav Republic of Macedonia today), where, exhausted by myocardial typhus fever that he had suffered earlier, he contracted malaria and died in 1915. He was buried in a common grave according to his own free will.

Dr Avram Jozef Vinaver - Career Development

Having graduated from the Faculty of Medicine, Dr Avram J. Vinarev became the first assistant to Professor Johann Freiherr von Mikulicz-Radecki (May 16, 1850, Czernowitz – June, 14, 1905, Breslau), and then to Professor Christian Albert Theodor Billroth (April 26, 1829, Bergen auf Rügen - February 6, 1894, Abbazia). Upon his arrival in Serbia, on the 2nd of March 1889, Dr Vinaver was first appointed to the position of the secondary physician of the General State Hospital of Belgrade. After eight months of work, he was transferred to the General Hospital in Šabac, where he worked under contract as an ordinarius since he was a foreigner. Soon afterwards, he opened a private doctor's office and became the first physician with private medical practice in Šabac (1889).

Dr Avram Jozef Vinaver contributed to the development of health services in Šabac, the region of Mačva, Serbia and other regions. He introduced the application of artesian wells. In 1900, only five years after the discovery of X-rays, he had an X-ray machine transported to Šabac and thus laid the foundation of today's radiology in Serbia. At that time, many developed countries did not have an X-ray machine. It was an X-ray machine with gas (ion) tubes, bought in Vienna, assembled in a building that was located next to the apartment of Dr Avram. Thus, Dr Avram Jozef Vinarev developed a radiological service there and Šabac became the first city in the Kingdom of Serbia which had an X-ray machine [1, 2, 4, 6, 7]. However, it is necessary to point out that in 1897 the Serbian Army already purchased an X-ray machine for the needs of the Military Hospital in Belgrade.

Dr Vinarev contributed to the fight against tuberculosis (TBC). He procured Koch's lymph for the treatment of tuberculosis patients from Berlin (1891). This medicine was the forerunner of tuberculin, the today's Bacillus Calmette–Guérin (BCG) vaccine [1, 2, 4, 6].

Dr Avram Jozef Vinarev – a Participant at the First Congress of Serbian Physicians and Naturalists, Belgrade, 1904

Dr. Vinaver wrote about his experience in working with X-rays, diagnostic and therapeutic possibilities of X-rays in his first papers, which were presented at the First Congress of Serbian Physicians and Naturalists held in Belgrade from the 5th to 7th of



Figure 1. Dr Avram Jozef Vinaver (1862-1915)
Slika 1. Dr Avram Jozef Vinaver (1862-1915)

September 1904, under the highest protection of His Majesty King Peter I [1, 6, 9–12]. The titles of the papers presented by Dr Vinarev were: *Diagnostic Importance of X-Rays in the Treatment of Lung Diseases, Particularly in the Initial Stage of Tuberculosis, Five Years of X-ray Treatment and Several Considerations Addressing the Issue of Whether Syphilis Can Be Inherited from the Father* [10–12]. The presented papers were published in the Proceedings of the First Congress of Serbian Physicians and Naturalists under the highest protection of his Majesty King Peter I in Belgrade on the 5th, 6th and 7th of September 1904, and printed in the state printing house of the Kingdom of Serbia 1905 “[9].

The works by Dr Vinarev - *Diagnostic Importance of X-Rays in the Treatment of Lung Diseases, Particularly in the Initial Stage of Tuberculosis* [10] and *Five Years of X-Ray Treatment* [11] – were the first papers in the field of radiology in Serbia, and among the first publications of this type in the world.

In his work *Diagnostic Importance of X-Rays in the Treatment of Lung Diseases, Particularly in the Initial Stage of Tuberculosis* [10] Dr Vinaver wrote: “X-rays have been destined to make a difference in this field and to ensure the success of these efforts. However, although the early uncertainty and roaming in the dark when making a diagnosis disappear as the time passes, and although we assure ourselves that “roentgenology is a valuable supporting device”, Roentgen rays have not been given their true right of the citizenship which they deserve”. Dr Vinaver continues: “X-rays can be applied in two ways:

1) Roentgenoscopy i.e. observing the objects by means of a fluorescent shield or screen because our eyes cannot see X-rays, and

2) Radiography, which is founded on the fact that the Roentgen rays act upon silver salts in the same way as ordinary light rays do, and therefore we can use them to get the same image as by ordinary photos. However, there is a huge difference between these images.... by means of radiography we get the image which is an algebraic sum of all dark and clear places through which Roentgen rays have passed.”

In this work Dr Vinaver gave the axiom of the overall radiological diagnosis: “It is not the X-rays but the intellect of a doctor that establishes a diagnosis.”

When discussing the future of X-rays and the application of X-ray diagnostics, Dr. Avram Vinaver, like a prophet, emphasized “... no doubt that this method is the method of the future.” At the same time, independently of Dr Vinaver, Nikola Tesla, our outstanding scientist, came to the same conclusion on the other side of the world [10, 13].

Dr Vinaver continued writing about the importance of chest X-rays: “The importance of chest X-rays in pneumonia is that they the central infiltrates inaccessible to physical methods. Variot and Chicot first drew attention to the diagnosis of such latent pneumonia. Lichteim also emphasized the same importance of X-rays. In my practice, I have had a case of a so-called central pneumonia in a five-year old child, without any physical symptoms, and chest X-rays revealed an intense shadow in the left lower lobe. Chest X-rays also indicate that the shadow still exists in resolution of pneumonia, where symptoms of auscultation are not present any more... X-ray devices are also used to give an accurate diagnosis and prognosis of sclerosis, emphysema, pneumonia.... In case of abscess and gangrene, which I am going to talk about, X-rays provide a topical diagnosis and thus enable a surgeon to treat his patient “Les rayons de Röntgen guident sa main””

Further on, Dr A.J.Vinaver wrote: “We find foreign bodies in bronchi: the flora and fauna and mineral kingdom have their representatives here. So far, in my career, I have found foreign bodies in my patients three times..... Roentgen rays enable us to make a timely diagnosis, which we have not been able to do so far..... And the position of Echinococcus in the lungs can be accurately diagnosed, as demonstrated by Rosenfeld Levy-Dorn..... The French were the first to apply the X-rays to diagnose pleura. Bouchard, Guilleminot, and Beclere enhanced the diagnosis of pleura by means of analyzing many radiographic symptoms and explained many pathologic developments which have been problematic so far.... X-rays provide the basis for selecting the patients for surgical treatments and thus ensure the success of surgery undertaken; on the other hand, we will use the X-rays to solve many questions related to the mechanics of pneumothorax.”

Dr Vinaver wrote the following about tuberculosis: “In order to assess the importance of X-rays



Figure 2. A charity stamp with the image of Dr Avram Jozef Vinaver

Slika 2. Doplatna poštanska marika sa likom dr Avrama Jozefa Vinavera

in tuberculosis, it is best to review the results of previous methods critically. The earlier methods encompass: percussion and auscultation, TBC bacillus sputum smear, tuberculin shots.... The comparison of chest X – Radioscopy/ Radiography with physical methods which were applied to diagnose phthisis created both excessive enthusiasm and excessive skepticism at the beginning of the application of X-rays. Radioscopy is a completely different thing. It detects injuries deep inside in a special way. ... By means of radioscopy, Kelsch and Boinon found 73 cases of latent tuberculosis in 124 young soldiers.” In summary, Dr Vinaver said: “... there should be no lung surgery without using Roentgen rays.”

In his work *Five Years of X-ray Treatment* [11] dr Vinaver presented the therapeutic possibilities of X-rays on a sample of 62 treated patients and said: “Most radiotherapists use soft pipes, in which the fluorescent light is intensely yellow, and which is capable of illuminating the chest of an adult at a distance of 1 to 2 meters, has a low power of 2.3 amperes, with the interruption of 15 to 20 per second, whereby the distance between the tube and the skin is 15 to 20 centimeters, while the duration of exposure ranges from 5 to 15 minutes.”

In his paper, Dr Vinaver quoted professor Holckneht from Vienna, one of the most prominent world radiologists of the time. In honor of professor Holckneht, the application of Holckneht’s chronoradiometer and Freund’s device used for a more precise measurement of the radiation dose (they used a fea-

ture of some salts of halogen elements to change the color under the influence of X-rays) was introduced.

Dr Vinaver further wrote ... "nowadays it is possible to treat favus in only 1 to 2 hours instead of months because those instruments for measuring doses of X-ray radiation enable the exposure to radiation without interruption after every 10 to 20 minutes of exposure in order to avoid overexposure of the patient.

Having analyzed the results of the treatment of their patients with X-rays, Dr Vinaver emphasized

- that he had achieved the complete success in all treated non-malignant diseases, except in chronic scrotal eczema. One out of two cancer patients was cured, while the other (Ca Labia inf. Cum meta gl. submandibularis contralateralis) suffered a partial regression of cancer;

- that the cancer cells were more sensitive to X-rays than the healthy cells which they stem from;

- that the greater the reaction of healthy tissues (skin erythema, dry and moist desquamation, necrosis etc.), the greater the effect of X-rays on pathological processes was achieved;

- that the applied dose of X-radiation was determined on the basis of the reactions of healthy tissues (erythema dose - erythema on the skin; there were early and late post-radiation reactions of healthy tissues).

At the end of the paper Dr Avram Vinaver concluded: "we will commit an unforgivable sin against our patients if we remain indifferent to the treatment by means of X-rays and do not make it possible to them to be treated and cured using X-rays."

In his third work *Several Considerations Addressing the Issue of Whether Syphilis Can Be Inherited from the Father* [12] Dr Vinaver spoke of "the existence of the spermatoc inheritance of syphilis", illustrating his claim by several cases from his medical practice.

In his paper Dr Vinaver said: "I have no intention to argue with advocates of the germinative theory, and, therefore, I am not going to criticize arguments and counter-arguments related to this theory, the infectiousness of sperm itself, the analogy with other infectious diseases, etc." He also added: "I am convinced that until the contagium of syphilis is determined, no theory will be able to explain all phenomena to us." Finally, the author concluded: "My intention was just to prove that all theories about hereditary syphilis which rule out the possibility of mother-child transmission often conflict with the facts of life. "Pas de syphilis hereditaire sans infection de la mère".

Dr Avram Jozef Vinarev - A Reserve Medical Major of the Serbian Army

During the Balkan Wars, Dr Vinaver was a volunteer with the rank of major, and did his service in military medical corps. During the Balkan War I, Dr Avram Vinaver was the head of the military hospital

in Kursumljija and Vranje and during the Balkan War II, he was the head of the Military Hospital in Valjevo, where the World War I caught him [1, 2, 5, 6].

During the World War I, Dr Vinaver held the post of a warden of Valjevo hospital as a medical major. Dr Avram Jozef Vinarev was captured during a violent raid of the occupying Austrian army, and sentenced to death (Valjevo, 17 November 1914). However, the regrouping and advancing of the Serbian army after the Battle of Kolubara (Suvoborska battle, 16th of November -15th of December 1914) forced the enemy to retreat in panic. There was no time to execute the death penalty, so Dr Avram Vinaver survived.

In October 1914, the region of Valjevo was affected by a spotted fever. Austro-Hungarian soldiers brought typhus to Serbia. By December 1914, the disease reached epidemic proportions and spread to the rest of Serbia [14,15]. In the winter of 1914, Dr Avram Vinaver contracted the disease in Valjevo, but survived:

"He knew

Since he was shaking because of the recurrent fever

For many days" "This is an excerpt from the poem *Dr Avram Vinaver* written by his son Stanislav [16].

According to the academic Koča Todorović, this vicious disease affected about 600,000 persons (about 15% of the population) in Serbia and the number of casualties rose to 135,000 [15].

No history of warfare has shown evidence that an army started the war with such a small number of doctors as Serbia did (450 doctors per around 4.5 million inhabitants) [14, 15, 17]. The Serbian medical corps, together with the help of foreign medical missions from Russia, Great Britain, the United States of America, France, Greece, Canada, the Netherlands, Denmark and many other countries that responded to the desperate pleas of the Serbian government, which was powerless in the face of the humanitarian disaster, successfully defeated epidemic typhus in Serbia by the end of August in 1915.

However, in August 1915, a new trouble struck our nation. An increase in the number of cases of typhoid fever due to water pollution was noticed. Dr Richard Strong, a Harvard University professor, was in Niš at that time and oversaw the quality of water from artesian wells in Valjevo and the environment [8].

Dr Vinaver introduced artesian wells into use and this represents his contribution to the development of the health protection services in Serbia.

Already exhausted from myocardial typhus fever, Dr Avram Jozef Vinaver contracted malaria and died in Gevgelija.

"Dr Avram Vinaver" - Stanislav Vinarev

During World War I, Stanislav Vinaver, the son of Dr Avram Vinaver, left his studies in Paris and

started volunteering in the Serbian army. He was sent to the non-commissioned officer military school in Skopje, to the famous unit "1,300 corporals" [1, 2, 6].

In these difficult times, Dr Avram Vinaver's wife Rosa published a book of patriotic texts titled "From Vranje to Thessaloniki" [1, 2, 6].

After the Great War, Rosa and their Stanislav settled in Belgrade.

During the World War II, Rosa Vinaver, being a Jew, was sent to the concentration camp at Sajmište in Zemun where she tragically lost her life in the gas chamber (1942).

Between the two world wars, Stanislav Vinaver was a journalist and worked in the diplomatic service of the Kingdom of Yugoslavia. He married "a German from Banat", with whom he had two sons, Vuk and Konstantin. The Second World War caught Stanislav and his family in Berlin, where he was working for the Yugoslav Embassy and was a correspondent for a Belgrade newspaper. Wartime conditions and patriotic education made Stanislav Vinaver return to Yugoslavia and respond to the military summons. Stanislav Vinaver was captured and taken to a camp in Osnabrück (Germany) during the attack of the German army against the Kingdom of Yugoslavia. He managed to survive in the camp. After the end of the World War II, Stanislav returned to his homeland. He worked as a journalist. He died in Niska Banja in 1955 and was buried at the New Cemetery in Belgrade [1,6].

A disturbing poem *Dr Avram Vinaver*, written by Avram's son Stanislav, testifies to Avram's dedication to his work [16]. The poem belongs to the poetic cycle *War comrades*, published by the Publishing and bookstore company *Geca Kon AD* Belgrade in 1939 [16].

"..... Dr. Avram Vinaver
 Medical Major
 The warden of the Fifth Reserve Hospitals
 Walked with difficulty leaning on the stick,
 Gaunt from illness and worries,
 Visited the sick patients day and night
 He observed their bewildered glance
 Judging it, he knew where one was
 On the path of life and death"

In the continuation of the poem, Stanislav Vinaver describes hellish scenes during the typhus epidemic:

"..... They are ranting
 Our whole country is ranting with them during typhus fevers.

The sick can be found in camps,
 Trains drive the sick,
 Homes are full of them.
 In the villages, on small huts
 On outbuildings
 In plum orchards
 Black flags are flaunting
 The plague darkens the world"

The poem took place in Valjevo, a region near the front and the biggest focus of infection. History has recorded that at that time the typhoid epidemic took its toll on the Serbian army and Serbian population.

Serbia has not forgotten Dr Avram Jozef Vinaver. In October 2008 the Post of Serbia put a charity stamp with the image of Dr Avram Jozef Vinaver into circulation. The following text, written in the Cyrillic letter, is inscribed: Dr Avram Jozef Vinaver, the year of birth and death: (1862 - 1915); the nominal value of the stamp: 10.00. The text: "Cancer is curable" is inscribed in red letters; the name of the country of origin – Serbia is written in white letters, just like the logo: Serbian Anti-Cancer Society (**Figure 2**). The circulation of 1,200,000 pieces significantly contributed to funding the anti-cancer institutions of Serbia [7].

Conclusion

Dr Avram Jozef Vinaver was a noble man with a great heart who selflessly sacrificed himself for the Serbian people and Serbia, but he left no grave to his family and the homeland of Serbia. Dr Avram Jozef Vinaver greatly contributed to the development of health care of the Serbian population in peacetime and wartime conditions. He introduced the application of artesian wells. He had an X-ray machine transported to Šabac, Serbia, and developed the radiological service. He wrote about his rich experience in working with X-rays, diagnostic and therapeutic possibilities of X-rays in his first papers, which were presented at the First Congress of Serbian Physicians and Naturalists held in Belgrade from the 5th to the 7th of September 1904, under the highest protection of His Majesty King Peter I. His works titled *Diagnostic Importance of X-Rays in the Treatment of Lung Diseases, Particularly in the Initial Stage of Tuberculosis* and *Five Years of X-Ray Treatment* represent the first publications in the field of radiology in Serbia. Dr Avram Jozef Vinaver laid the foundations of today's radiology in Serbia.

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