

The physician who first applied radiotherapy, Victor Despeignes, on 1896

Abstract

François-Victor Despeignes, a French physician with significant contribution in public hygiene, was the first who had applied the irradiation treatment against malignant tumours. During 1896 he had performed to a 52 years old male patient X-rays treatment for epigastric tumour, paving the way for a new treatment era.

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The hygienist Victor Despeignes

François-Victor Despeignes was born on 1866 in Lyon. On 1886 he started his medical career by being accepted in the laboratory of research at Lyon. Influenced by the work of Louis Pasteur he became fond of Zoology and especially of parasitology [1-2]. He tried to impose strict rules of antiseptics for the general population and for his colleagues [1]. He was appointed Chief of the laboratory of Louis Pasteur during 1892 [3]. Despeignes wrote three treatises, in 1890 the "Nouveau régulateur pour étuve chauffée au pétrole" (New regulator for oven heated oil) [4], in 1891 the "A propos de la question des eaux de Lyon" (Concerning Lyon's waters) [5], and in 1903 the "Deux cas de kyste hydatique (Two cases of hydatid cysts) [6], that established him as a well known hygienist [1]. During that era he had been assigned to study, both city's drinking water [7], and the prevalence of tuberculosis [8], providing a major contribution to public health.

From March to June 1896 in Lyon, other physicians, Louis Charles Émile Lortet and Philibert Jean Victor Genoud, irradiated for 53 days some guinea pigs, in which tuberculosis substances were inoculated. At the same time Despeignes was treating a 52 years old male patient suffering from stomach cancer [1]. Believing that cancer was a parasitological disease, he decided to try a new kind of treatment. Only five months after Roentgen's discovery of X-rays, Despeignes had performed the first ever given to a patient anticancer radiotherapy by X-rays [1, 9-12]. The patient presented with jaundice, cachexia, fainting spells, melaena without haematemesis, severe pain, and a palpable epigastric mass "like the head of an 8 months fetus". Despeignes in order to palliate the severe pain of this patient first administered opium, morphine and chloroform, while he had been preparing for his innovative intervention. Roentgen-ray treatment started at the 4th of July, and the dosage given was divided in two of 30min sessions every day. Surprisingly after 8 days of treatment the patient had substantial pain relief, his jaundice was decreased and his tumor was such smaller. He described to his patient a diet regime with milk, condurango (the bark of a South American vine of the milkweed family) wine, and injections of artificial serum, so that his patient could better cope with the side effects of his treatment. During the 24th of July, the patient died, despite Despeignes' efforts to reinforce him with more injections and food enemas [1, 12, 13]. The epigastric tumour was shrunk to approximately half of his original size, and the symptoms were significantly better. Patient's quality of life was ameliorated and Despeignes noted "for the first time there is hope, where there was none" [1].

The scientific community responded with enthusiasm towards Despeignes' work and publications, and soon a long list of diseases appeared that could be cured by X-rays. They were 56 ailments, like tuberculosis, elephantiasis, syphilis, epilepsy, acne, psoriasis skin and breast cancer. Despite the hope for a universal cure, it soon became clear that X-rays were particularly suited for the treatment of malignant diseases and also

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that this treatment could rise to a range of unpleasant side effects, such as skin sores, and inflammation, hair loss and painful irritation [14].

Despeignes had used a Crookes' tube and six Radiquet battery elements to perform his pioneering method [1, 15]. He was inspired and supported by multidimensional conjunction of Pasteur's ideas, the discovery of X-rays, probably the technical help of Lumière brothers, and his own innovative thinking. Despeignes established in the area of "Les Échelles" (a commune in the Savoie department in the Rhône-Alpes region in south-eastern France, close to Lyon) the application of the X-rays treatment against cancer tumours, promoting Lyon's sophisticated medicine [16].



Figure 1. Victor Despeignes, (http://www.memoireetactualite.org/fr/galerie_image.php. Accessed 02/02/2014).

In conclusion, Victor Despeignes from Lyon was the first medical doctor to treat a stomach cancer patient with X-rays, obtaining partial remission. With high-energy linear accelerators, computerized treatment planning, and ingenious fractionation schemes, modern radiotherapy has become a vital component of cancer treatment.

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