

History article

Georg Clemens Perthes (1869-1927)

Fernández JV,*,**Camacho JG,* Ayala UG*

Centro Médico ABC Sta. Fe

Georg Clemens Perthes (1869- 1927) Figure 1

Perthes was born in January 1869 in Mors, Rhineland, Germany; his father was a teacher at the local junior high school. When his mother died, probably of tuberculosis, they moved to Davos, Switzerland, where his father started a school for children with pulmonary diseases; he grew up there until his father was transferred to go to Bonn. After his father died, he lived with his aunt Agnes. Through his aunt's grandfather, who sold medical books, he met Trendelenburg, whose influence on him led him to study medicine. In 1891 he received a PhD in Medicine from Bonn University. He later became Trendelenburg's assistant and followed him from Bonn all the way to Leipzig in 1895. Perthes studied at several medical schools (Freiburg, Berlin and Bonn), a very common situation at that time. From 1900 a 1901 he went to the port of Tsingtao in China, where he practiced as a surgeon for the German army; there he did an X-ray study of the forced foot deformity among Chinese women.

When Trendelenburg went to Leipzig to replace Thiersch, he encouraged Perthes to attend the conferences and participate in the discussions. One of the speakers mentioned the contrast between the seriousness of Perthes and his professor, who was open and always available for discussion; however, there was always respect as well as a warm friendship between them. Several people said that Perthes was Trendelenburg's favorite student and the one he was fondest of.

During his initial work, Perthes developed a drainage method using a suction catheter for the management of empyema, which he also used to drain soft tissue abscesses. He would fill the tube with air and place it around the extremi-

ties, where he performed surgery under regional anesthesia. This may lead to crediting Perthes for the use of the pneumatic tourniquet; however, it has been reported that Cushing was the one who showed how to control the pressure and maintain it at the target level. Perthes developed a test to assess the competence of the deep vein drainage prior to leg variceal surgery known as «Perthes test», which the French also called «Delbet-Mocquot test». In upper extremity surgery he is known for the tendon transposition technique for radial paralysis, which was used for a long time; it is not used anymore now because it has been replaced by other techniques. Georg Perthes did other things; he was interested in other areas that include the use of radiation, a recent discovery at that time.

Perthes described the effect of X-rays on epithelial cell growth as well as their destructive effect on warts, skin cancer and metastatic breast cancer. He also described their effect on plant cells and on the chromatin of their nucleus. He used X-rays as treatment after breast carcinoma surgery, and he is therefore considered as a pioneer of radiotherapy.



Figure 1. Georg Clemens Perthes (1869- 1927).

* Orthopedic Surgeon at Centro Médico ABC.

** Titular Professor of the Orthopedics Course, Centro Médico ABC.

Please address all correspondence to:

Dr. Juan Manuel Fernández Vázquez. Centro Médico ABC Sta Fé. Av. Carlos Graef Fernández Núm. 154, Cons 406. Col. Tlaxala, México D.F. CP 05300. Tel: 16647154

E-mail: fernandezvazquez@yahoo.com

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Figure 2. Legg-Calvé-Perthes disease.

Other interest areas of Perthes were the joints and bones, same as Trendelenburg, his professor. During his stay in Leipzig he described hip osteochondritis, a disease that bears his name together with Legg's and Calvé's (*Figure 2*). He also developed a procedure for the treatment of shoulder

dislocation, and designed osteotomies for the treatment of flat foot, valgus and varus knees. In hand surgery he proposed the deepening of the 1st and 2nd interdigital spaces for the treatment of thumb loss and recovery of the grip capability.

During World War I he was very active in the front at a hospital where he treated patients with severe peripheral nerve injuries; this allowed him to write a chapter of a book on war surgery, with post-neuroorrhaphy techniques and rehabilitation.

Later he moved to Bonn, where he worked as professor and in 1927, during the Christmas holidays, he died of a myocardial infarction in Arosa, Switzerland.

References

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