Biographical Sketch

Georg Clemens Perthes, MD (1869–1927)

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Abstract This biographical sketch on Georg Perthes corresponds to the historic text, *The Classic: On Juvenile Arthritis Deformans* (1910), available at DOI [10.1007/s11999-012-2433-1](https://doi.org/10.1007/s11999-012-2433-1).

Georg Clemens Perthes was born in Mors, Germany in 1869 [5]. His mother died of tuberculosis when he was young, and his father moved the family to Davos, Switzerland, where he opened a school for children with pulmonary diseases. He was still a child when his father died and he moved to Bonn, where he was raised by his aunt [1], through whom he met Friedrich Trendelenburg, who influenced Perthes' career choice. Perthes studied at the Universities of Freiburg im Breisgau (Albert-Ludwigs-Universität, one of the oldest universities in Germany, dating from 1457) and Berlin [4]. He then obtained a doctorate at the University of Bonn in 1891. He briefly served as an assistant to Trendelenburg in Bonn, but when Trendelenburg was appointed and moved to the professorship in Leipzig later that year, Perthes moved with him. During the Boxer Rebellion in 1900 and 1901, Perthes served as an army surgeon with the German military contingent in China. He returned to Leipzig after the war and remained there until 1910 when he was appointed head of the surgical clinic in Tübingen. Like many surgeons, he joined the military during World War I, where he had extensive war trauma experience. Sometime after the war he was appointed as professor in Bonn [5]. He died

suddenly of a stroke at the age of 58 while on holiday in Arosa, Switzerland.

Perthes had great interests in the newly discovered x-rays and radiation therapy for skin and breast cancer, and from his experimental and clinical publications, he is considered a pioneer in radiation therapy. His other main area of interest was musculoskeletal problems, and he made early use of x-rays to identify those problems. He reportedly took the first radiographs of a patient with what we now know as Legg-Calvé-Perthes disease in 1898, but his assistant did not publish these until 1910 [4].

We republish this month the full translation of Perthes' original 1910 article on arthritis deformans [12]. During that same year two other surgeons, Arthur Legg [10] and Jacques Calvé [3] independently published articles on the same affection, with Legg's series (republished as a Classic in CORR in 2006 [11]) containing five cases, and Calvé's (also republished Classic in CORR in 2006 [2]) containing 10 cases (from among more than 500 cases of hip diseases). Perthes used the term, "arthritis deformans juvenilis" to describe the condition. Lebert, in one of the earliest uses of the term "arthritis deformans" in the more modern sense, stated in his 1859 textbook of medicine [9]: "The disease which we describe here is always chronic. It has been described under the name of gouty rheumatism, asthenic primitive gout, dry chronic arthritis, and arthritis deformans, but only recently has its nature become clear." In fact, what he described includes a number of conditions we now recognize as distinct. Hoffa and Wollenberg, in their massive volume on arthritis deformans in 1908, continued to lump various conditions under the same term [8]. Perthes, on the other hand, used the term "arthritis deformans juvenilis" to distinguish the entity we now know by his name. He described six cases (one bilateral), but his descriptions and his analyses of his cases and the 38 cases

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Fig. 1 Georg Clemens Perthes is shown.

(12 bilateral) he found in the literature were far more complete than those of Legg or Calvé. All three authors made a major distinction between this affection and tuberculosis of the hip, which at the time was relatively common. All three recognized the symptoms were rather transitory in children, but then they presented later with hip deformities and symptoms. In fact, many of the cases Perthes identified from his own experience and the literature did not present until late adolescence or adulthood, and the condition was diagnosed by the history and the characteristic radiographic findings. (It must have been rather like putting the pieces of a puzzle together.) There were, of course, other entities to be distinguished, primarily coxa vara. Perthes recognized some patients presented with referred knee, rather than hip pain (a point well described by Hilton in 1863 [6, 7]). In exploring the etiology, Perthes thought the disease primarily idiopathic. While he recognized early sepsis as a rare possibility, he believed trauma was not a likely cause in most cases (recognizing all children experience minor trauma): “Finally, if we consider the etiology of the juvenile arthritis deformans of the hip joint and the concepts of this disease, we only propose hypotheses and can do nothing but test these unproven

opinions”...“...many factors speak in favor of Wollenberg’s assumption that the group of ‘idiopathic juvenile arthritis deformans’ that still must be distinguished will merge more and more with the various groups of secondary arthritis as we learn more.” He believed immobilization with traction or plaster was inappropriate and led to stiffness and rather suggested gentle mobilization or surgery for advanced cases with deformity: “Systematic passive mobilization and massage are advisable...For cases with far advanced bony changes an operative modeling of the femoral head or a resection can be considered.” (The surgery he discussed was not unlike the sort of remodeling that is being performed today for femoroacetabular impingement.)

Perthes’ careful and detailed analysis of the condition and all aspects of diagnosis, treatment, and outcome distinguish his contribution from that of his colleagues, whose names nonetheless precede his in the condition we now know as Legg-Calvé-Perthes disease.

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