The Royal Society of Medicine

Journal of the Royal Society of Medicine; 2024, Vol. 117(4) 149–151
DOI: 10.1177/01410768241236681

Johann Friedrich de Quervain (1868–1940): Swiss surgical innovator

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Johann Friedrich de Quervain was the first of 10 children of a German-speaking Swiss clergyman and his francophone wife. Between 1887 and 1892, he studied medicine at the University of Bern, Switzerland, and was a student-assistant in the Institutes of Pathology and Physiology there, having understood the importance of these two disciplines for the development of surgery, which was then in full swing. Surgery was clearly his preferred field and he entered it resolutely: after graduation and a study trip through Germany, he worked for two years under the professor of surgery at Bern, Theodor Kocher, whose international reputation was about to grow in these years.[1] Within two years of qualification, de Quervain had assumed his first independent post as chief surgeon, at the City Hospital of La Chaux-de-Fonds, Canton Neuchâtel, near the French border.

While based in La Chaux-de-Fonds, de Quervain published papers on stenosing tenosynovitis of the thumb muscles,[2] which is still known as *de Quervain's disease* by hand surgeons,[3] and on sub-acute inflammation of the thyroid (giant-cell thyroiditis),[4] which is referred to as *de Quervain's disease* by endocrinologists. In 1907, he published a *Treatise of surgical diagnosis*.[5] The book reflected his combination of the strictly methodical approach to clinical problems taught by Kocher and the more 'intuitive' approach of the French school. This no doubt contributed to the international success of the book: it went on to be translated into six languages and had 10 further German editions. He was among the first to systematically compare preoperative radiological diagnoses with intraoperative and postoperative anatomico-pathological diagnoses of gastrointestinal diseases, thus assessing the usefulness and limitations of preoperative radiology.[6,7]

In 1910, de Quervain was appointed to the chair of surgery in Basel, Switzerland. After declining an offer from the University of Geneva, he succeeded Kocher in Bern in 1918, where he remained professor of surgery until 1938. During the Bern years, de Quervain wrote monographs on goitre[8] and cretinism[9] and was scientifically responsible for the introduction of iodised salt to prevent endemic goitre in Switzerland.[10,11] Furthermore, he did distinguished work as a medical historian (see, for example, de Quervain et al.[12])

De Quervain's most original accomplishment in the scientific domain was to promote a more methodical approach to the evaluation of surgical interventions at a time when surgical statistics usually only showed operation results.[13] He compared, retrospectively, the outcomes of 6116 episodes of appendicitis among patients admitted to either the surgical or the medical departments of Swiss hospitals. He settled a decade-long controversy by showing that the timing of surgery after the onset of symptoms was a stronger predictor of outcome than clinical-pathological criteria: prompt operation was associated with lower mortality and lower hospital costs than conservative treatment.[14]

He later used a similar approach to compare mortality among patients with breast cancer who had or had not been treated surgically. In 1915, he identified two comparison cohorts of patients who had been treated either conservatively or surgically in various Swiss hospitals between 1911 and 1915, and then followed their progress for a further five years.[15] The analysis, which was done in collaboration with a professional statistician, compared survival in the surgically and conservatively treated cohorts, both with each other and with estimates of life expectancy derived from population statistics matched for age at the time breast cancer had been diagnosed in the patients.[15] The results put the value of radical surgery into perspective: it did not have the beneficial effects on mortality that had been widely assumed. The findings prompted de Quervain to stress the need for basic research to understand the disease and the importance of taking the individual circumstances of every patient into account, rather than using

radical surgery based only on patho-physiological concepts or operative statistics.

Just as the international success of de Quervain's *Treatise of surgical diagnosis* had reflected his complete assimilation within two language cultures – German and French – this and his stringent moral standards help to explain the important role he played in re-establishing the integrity of the *Société Internationale de Chirurgie*, which had become divided according to nationalistic political camps.[10] The *Société* had been founded in 1902 in Brussels and had its seat in the Belgian capital, so it was particularly offended by the German occupation of Belgium in 1914 in defiance of Belgian neutrality. A consequence was that, in accordance with decisions taken by a conference of the scientific academies of the Allied Countries in London in 1918, members of the *Société* from the former Central Powers (Germany, the successor states of the former Austro-Hungarian empire, Bulgaria and Turkey) were excluded at the first postwar meeting in Paris in 1920.

This schism of the scientific world was a new phenomenon in the history of science. De Quervain regarded science as an international, indeed supranational, venture, and it was at this moment that, convinced that future generations would be capable of bridging the still widening gap between nations, de Quervain took the initiative to promote international student exchanges, both within Europe and with the USA. His visit to the USA in 1921 allowed him to see the European problems in a fresh light and to establish valuable professional and personal relationships, and he continued publishing regularly in English as well as in German and French.

Immediately after the Paris meeting of the *Société*, he took the first steps to re-unify it, and he was subsequently nominated as its official mediator. His work was rendered more difficult by the continual intrusion of day-to-day political events during these nationalistically overheated times. This caused the loss of hard won ground. Finally, however, after 12 painstaking years involving innumerable personal contacts, journeys, letters and telegrams, his efforts were crowned by the first truly international postwar congress of the *Société*, which was held in Madrid in 1932, with de Quervain in the chair.[10]

Two years after his retirement, de Quervain died in Bern in 1940. Some years later, Owen Wangensteen, a distinguished American surgeon and historian of surgery who had spent some time working with de Quervain, remembered him as:

> Short of stature, of true professorial mien with a great breadth of knowledge, courteous and friendly in manner, and of good humour without the all too obvious imperiousness of many of his German counterparts. Professor de Quervain presided over his interesting surgical clinic nestled between beautiful Swiss mountains and attractive scenery, like a benign English squire.[16]

Declarations

Competing Interests: None declared.

Funding: None declared.

Ethics approval: Not applicable.

Guarantor: UT.

Contributorship: Sole author.

Provenance: Invited article from the James Lind Library.

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