

Hevesy –and the making of early nuclear medicine in Copenhagen

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George de Hevesy (1885-1966), Hungarian-born chemist and Nobel laureate, developed the use of radioactive indicators in 1913 while working in Rutherford's lab in Manchester, where he also met Niels Bohr. After World War I, Hevesy came to Copenhagen to work at Bohr's Institute, where he and the Dutch physicist Dirk Coster discovered element 72 of the periodic table, hafnium. In the 1920s, Hevesy pioneered the use of radioactive tracers in biology using plants and animals. This happened in the context of an interdisciplinary collaboration with the physicochemist I. A. Christiansen from the University and the dermatologist Dr. Svend Lomholt at the Finsen Institute (now Rigshospitalet). When Hevesy in 1934 returned to Copenhagen from Freiburg, he worked with Bohr and developed the use of the tracer technique with radioactive isotopes in biology and medicine. Hevesy's close collaborator Hilde Levi states: "It is interesting to note, that Hevesy's ventures into biology as the most obvious field of application of radioactive indicators began in collaboration with medical people"(1).

This talk will report on preliminary observations on the making of early nuclear medicine in Copenhagen, where Hevesy initiated studies on the use of the tracer technique in collaboration with researchers in physics, chemistry, biology, physiology, and medicine. Hevesy and Ole Chievitz, chief surgeon at the Finsen Institute, jointly wrote the seminal paper on the use of P-32 for studies of bone formation (2). The zoophysiological August Krogh (Nobel Prize 1920), and his young assistant Hans H. Ussing developed the use of tracers for studies of membrane transport. Was it a large multi- and interdisciplinary network, with smaller independent interdisciplinary groups? The main protagonists were all leaders in their respective fields, and all were connected to Bohr, whose importance Hevesy in 1963 emphasized in a handwritten manuscript (3), characterizing Bohr as generous, unselfish, and modestly staying in the background.

References

1. Levi H. Georg von Hevesy Memorial Lecture. Eur J Nucl Med. 1976;1:3-10.
2. Chievitz O, Hevesy G. Radioactive indicators in the study of phosphorus metabolism in rats. Nature 1935;136:754 .
3. Georg de Hevesy Archive, Niels Bohr Archive, box autobiography, handwritten in blue ink „Gamle dage“ (English „Old days“), 1963.

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