Regine Kapeller-Adler (1900-1991)

A “sensational discovery” is what the Neue Wiener Journal (New Viennese Journal) called it, “a significant achievement for gynaecology and obstetrics,” Der Wiener Tag (The Viennese Day). They were talking about a new pregnancy test that had been presented at the Viennese Biological Society at the end of May 1933. This test was developed by a woman – a rare exception amidst all the male inventors: the chemist Dr Regine Kapeller-Adler (1900–1991), assistant at the Institute for Medical Chemistry at the University of Vienna. It was a detection method for the amino acid histidine in the urine of pregnant women. While urine containing histidine stains red to dark red during this test, histidine-free urine turns an intense yellow (with a green tinge) to brown.
Her “sensational discovery” was superior in a number of respects to the conventional method at the time, the Zondek-Aschheim method (“A-Z test”): firstly, it could be deployed considerably earlier – namely, in as soon as the second month of pregnancy.

Secondly, the result was obtained after just four hours, whereas carrying out the A-Z test was time-consuming, and it took around one hundred hours until the result could be read. And, lastly, Kapeller-Adler's development made use of a chemical instead of a biological reaction: unlike with the A-Z test, no mice therefore needed to be bred and sacrificed in order for the result to be able to be read. Kapeller-Adler's method was an important step towards the modern pregnancy test, but not yet the final breakthrough. That is to say, it occasionally gave false-negative results, and thus actual pregnancies were not detected in some cases. For this reason, her test was not universally introduced, but it was used by some clinicians as a pre-test: if the result was positive, then evidence of the pregnancy was thus provided; if the result was negative, one could always still follow up with the elaborate A-Z test. It in fact then took until the end of the 1950s until the tests on animals could finally be done away with. Even the newly developed immunological pregnancy tests were not yet perfect and were gradually improved.

Since Kapeller-Adler's academic interests were concerned with questions of medicine, she embarked on a medical degree in 1934, though, for racist reasons, she was no longer allowed to take the final viva in March 1938. As a Jew, she also lost her post of employment, and, prior to that, she had even been discouraged from applying for habilitation as a chemist, since, as a woman and a Jew, her chances were deemed to be poor. Her husband, the physician Dr Ernst Adler, also lost his post for racist reasons, was arrested, imprisoned, persecuted and tortured, and only just escaped deportation to Dachau concentration camp.

The development of the pregnancy test proved to be a life-saver for her family: the board of the Institute of Animal Genetics at the University of Edinburgh offered her a post at what was the first, and at that time only, Pregnancy Diagnosis Laboratory in Great Britain. From that point on, she was able to continue pursuing her academic career and gained recognition, grants and awards. In June 1973, she was presented with the University of Vienna's Golden Honorary Diploma.

It was not (earliest possible) abortion that Regina Kapeller-Adler had in her sights with her test, but rather the situation in normal pregnancies and in those marked by toxaemia, a complication that jeopardises the mother and the foetus. By investigating and influencing the chemical-pathological changes in toxaemic pregnancies, she wanted to make a contribution towards the successful delivery of a healthy child.

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