The Aschheim-Zondek Test for Pregnancy [1]

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Many different methods have been devised for the early detection of pregnancy [5]. From the time of the Ancient Egyptians, inspection of the urine has been a popular place to start. However, it was not until the discovery of hormones [6] in the early twentieth century that the development of truly reliable pregnancy [6] tests occurred. Prior to 1978, when the first home pregnancy [8] tests became available in the United States, pregnancy [9] testing was done in hospital laboratories using various methods, one of them being the Aschheim-Zondek, or A-Z test [7].

The A-Z test [7] is a product of research into human reproduction carried out in the early twentieth century. Developed by German gynecologists Selmar Aschheim [6] and Bernhard Zondek [6] in 1927, the A-Z test [7] was one of the first bioassays [10] developed to detect early pregnancy [8]. Armed with new information about chemical messengers called hormones [8], Aschheim and Zondek identified the anterior pituitary gland [11] as an endocrine gland that performs important roles in ovarian function. It is now known that a family of hormones [8] called gonadotropins is essential to control of the ovarian and uterine cycles and to sexual maturation. During the menstrual cycle, an increase in gonadotropin [12] levels causes a mature ovarian follicle to release its egg [13] and develop into a corpus luteum [14].


Remarkably, although Aschheim and Zondek developed the A-Z test [7] in 1927, hCG itself was not discovered until the 1950s. This landmark in the history of pregnancy [5] tests simply operated under the assumption that a substance present only in the urine of pregnant women could be used to elicit some sort of measurable response in other, nonhuman, organisms. Specifically, the Aschheim-Zondek test calls for the injection of a woman’s urine into an immature female mouse [22]. It was correctly hypothesized that if a woman is pregnant, the young mouse [22] will go into heat despite its young age. Ultimately, the Friedman test [23] would use rabbits rather than mice, eliciting the popular symbol of rabbit [24], killing to describe pregnancy [5] testing as the rabbit [24] would have to be sacrificed in order to identify the presence or absence of corpus luteum [14]. The test further evolved in efficiency in the 1950s with the use of toads rather than mice, as these ectopic pregnancy [27], hydatidiform mole [28], chorion-epithelioma [29],...
incomplete abortion and testicular tumors, which also produce human chorionic gonadotropin. Although the A-Z test is no longer used, it was an important step in the development of modern pregnancy test kits.

Sources


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