

DIAGNOSIS AND MANAGEMENT OF HYDATIDIFORM MOLE AND ITS COMPLICATIONS: 2000 YEARS OF A MEDICAL CHALLENGE

Spontaneous resolution of hydatidiform mole (HM) has been reported since the first description of a molar pregnancy by Hippocrates (ca. 400 BC). Nicolaes Tulp (1593-1674), a Dutch surgeon famously depicted in Rembrandt famous painting 'The Anatomy Lesson of Dr Nicolaes Tulp' (1632), reported on the outcome of two of his patients in his 'Observationes Medicae' (1672). One of them, expelled no less than a "bucket full of water and blood", and both "recovered quickly their former health". A decade later, Jan Baptist van Lamzweerde, a Dutch physician wrote, in the first monograph textbook on HM, 'Naturalis molarum uteri historia' (1687), that 'the great' Harvey favoured surgical evacuation by means of 'a delicate silver instrument' over medical or spontaneous expulsion.

In 1903, John D Malcolm a consultant surgeon at the Samaritan free hospital, London published the unusual case of ovarian bilateral cystic changes in a patient with HM. She fully recovered, but the authors note that "had not hysterectomy and bilateral oophorectomy been performed before the malignant growth had time to trespass beyond the walls of the uterus" she would have perish (Malcolm DM et al, J Obstet Gynaecol Brit Emp 1903;4:521-531). At that time the diagnosis was still made by (microscopic) inspection of tissue expelled or evacuated from the uterus. Selmar Aschheim (1878-1965) and Bernhard Zondek (1891-1966) were the first to published on a practical pregnancy test using immature female mice whose ovarian follicles visibly enlarged if injected with urine from pregnant women (Aschheim & Zondek, Klin Wchnschr 1928;730). They also reported remarkably high levels of human chorionic gonadotrophin (hCG) in the liquid and tissue of HM. Their work led to the bioassay for hCG, known as the Aschheim & Zondek or A-Z test.

Other semi-quantitative urine bioassays using rabbits, rats and frogs were developed in the 1950s and 60s to aid to the prenatal differential diagnosis of HM. Ernest Kohorn and Roland Blackwell (J Obstet Gynaecol Br Commonw. 1955;75:1014-18) at the Obstetric Hospital, London, were the first to publish on the prenatal diagnosis of HM using B-mode ultrasound (Figure 1), changing the antenatal management of this placental disease forever. Improvement in ultrasound imaging has allowed the diagnosis evacuation of the molar tissue at an early stage, thus reducing the risks of severe secondary complications such as eclampsia.

In 1955, Hobson BM (J Obstet Gynaecol Br Emp 1955;62:354-63) demonstrated that hCG regression depends on the disappearance of the HM. This led to the concept of using hCG for the follow-up of HM, which was greatly facilitated with the introduction of quantitative and more reproducible in vitro tests (Vaitukatis et al., Am J Obstet Gynecol 1972;113:751-758). Monitoring with a validated normal regression curve can now detect persistent trophoblastic disease at an early stage and prompt treatment with chemotherapy. A cohort study of 35 cases of

molar pregnancies with raised hCG over a long period after evacuation now indicates that failure to regress to normal hCG serum values does not also warrant prompt treatment with chemotherapy(Taylor et al. 2016;xxx:yyy-zzz).

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Disclosure of interests

We declare no conflicts of interest.

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Figure 1: B-mode ultrasound longitudinal (LS) and transverse (TS) scans from Kohorn and Blackwell (J Obstet Gynaecol Br Commonw. 1955;75:1014-18) showing molar tissue in the upper uterine (u) cavity. B= bladder; um= umbilicus; S= symphysis; a= anterior wall.

