VASA PRAEVIA: MORE THAN 100 YEARS IN PREVENTING UNECESSARY FETAL DEATHS

Placenta praevia and vasa praevia (VP) have been known to medical science for more than 200 years. Jean Lobstein (1777-1835) was a French surgeon, pathologist and obstetrician who is credited for describing the first case of rupture of vasa praevia (VP) in Strasbourg in 1801 (Archives de L'art des Accouchements, 1801, p320).

When Miles H Phillips, an obstetrician from Sheffield described a case of rupture of a "velamentous" vessels during labour in 1914 (J Obstet Gynaecol Br Emp. 1914;26:224) he could do very little than delivering a dead fetus. He noted "the doctor in attendance ruptured the membranes before the cervix was fully dilated". This was associated with "free bleeding" and the doctor "suspected a placenta praevia" and called for his help. His examination of the placenta after delivery showed a velamentous insertion of the cord with a ruptured VP. A few years later, when caesarean delivery had become more widely available, Arthur J McNair (1887-1964), a consultant obstetric surgeon at Guy's hospital was able to surgically deliver a live baby presenting with a "marginal placenta praevia and velamentous cord" (Proc R Soc Med.1921;14:195-6). Like Phillips, he concluded that "rupturing of the membranes had resulted in tearing of a large vein".

Until the late 1960s when ultrasound started to be used to diagnose placental pathologies such as hydatidiform moles and placenta localization (Campbell S et al. J Obstet Gynaecol Br Commonw. 1968;75:1007-13), the diagnosis of placenta preavia and/or VP was exclusively clinical. The "classic" fresh bleeding immediately after spontaneous or artificial rupture of the membranes suggested the rupture of a VP (also referred as the Benckiser's haemorrhage). Very often, the diagnosis was confirmed during a vaginal examination by feeling the pulsating fetal vessel near the internal os. This diagnostic approach is unreliable and can precipitate fetal haemorrhage by accidental rupture of the membranes and damage of the VP.

Gianopoulos et al (Obstet Gynecol.1987;69:488-91) were the first to report on the prenatal diagnosis of VP with ultrasound. The performance of ultrasound of diagnosing VP is considered excellent. However, the incidence of VP is low and most studies have been conducted in specialist centres. There are no prospective studies on the value screening of VP in an unselected population.

A systematic review of the incidence and risk factors of VP has indicated that 83% of the 325 cases reviewed have one or more risk factors including placenta praevia, bilobated placenta, succenturiate placental lobe, conception by assisted reproductive technologies and velamentous insertion of the cord (Ruiter et al. 2016;). The current study has shown that velamentous cord insertion and abnormal placental morphology are strong markers of VP and therefore identification of cord insertion and placental shape should be part of the routine ultrasound examination at 12-14 and 20-23 weeks. There is no consensus about time of delivery in cases of VP but, unlike the time of Mr Phillips and Mr McNair, parents are aware of the condition (vasapraevia.co.uk/the-experts/) and know that prenatal diagnosis and early delivery can prevent "unnecessary" death.

Word count: 500

MC on MS2015-CM-15981 by Ruiter et al

Disclosure of interests

We declare no conflicts of interest.

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