Stillbirth: The other half of Perinatal Mortality

Abstract:

Stillbirth is fatal death after 20 weeks gestation. There are a number of definitions and classifications. WHO defines a stillbirth as a baby BW =500g, e42 weeks gestation, who died before or during birth. However for international comparisons it recommends that reporting be restricted to those with BW>1000g and gestation >28 weeks. In Ireland stillbirths must be registered, the definition being BW<500g or having reached a gestational age <24 weeks. Stillbirth affects 1 in 150 births. It equals the number of infant deaths in the first year of life. At the beginning of the third trimester of pregnancy the baby weighs 1 Kg and the risk of stillbirth is 1-2%. The possibility of a stillbirth increases with maturity throughout the third trimester and is 3 times greater at 40 weeks than at earlier gestational ages. Risk of stillbirth is relevant for the 5-10% of pregnancies that continue e42 weeks. If managed expectantly one in 400 post-term pregnancies will end in a stillbirth. Since 2003 the stillbirth rate has remained static in the US at 3-0 stillbirths per 1000 births. Prior to 2003 the stillbirth rate had declined 1.4% annually while the infant mortality rate fell twice as fast at 2.8%. Globally there are 2.6 million stillbirths annually. In Ireland the stillbirth rate is 3.3 per 1000 births which equates to 290 deaths per year. Despite its frequent occurrence stillbirth has been a relatively neglected component of perinatal medicine. Because a definitive cause cannot be identified in many cases, counselling is very difficult. This lack of scientific causation data has resulted in professional fatalism towards the stillbirth problem.

One of the major challenges is that it has been technically difficult to determine the cause of the demise in individual cases. Post-mortem rates have declined to 50% due to clinicians' lack of knowledge on its importance and the limited availability of perinatal pathology services. Another issue has been the artificial 20 weeks boundary between miscarriage and stillbirth. This was based on the theory that pregnancy loss before 20 weeks were too early for consistent diagnosis. However, reports demonstrated the importance of a thorough investigation of each case. The relationship appears to be due to obstetric complications and infection or a combination of both. The purpose of classification is to identify deficiencies in the delivery of care, to point out where improvements are possible and to indicate the place of new knowledge and development. Flenady et al found that Wigglesworth and Aberdeen performed suboptimally while CODAC emerged as the best. The Stillbirth Collaborative Research Network (SCRN) was established by the Eunice Kennedy Shriver National Institute in 2001. Its objective is to determine the causes of stillbirth in the US. The Group used the INCODE research tool to systematically decide on the cause of the stillbirths. The three point approach to establishing the cause of a stillbirth was post-mortem examination, placental histology and karyotyping. Additional tests included fetal haemorrhage, toxicoology, glycolated and anticardiolipin antibodies. Using this pragmatic approach the SCNR Writing Group found that among 500 stillbirths it was possible to assign a probable cause of death in 60.9% of cases and a possible or probable cause in 67.2%.

There are 5 broad categories into which most stillbirths will fit. These are obstetric factors, placental disease, infective causes, genetic/structural and umbilical cord complications. Obstetric conditions are responsible for 29.3% of cases. The placenta is also a leading cause of stillbirth accounting for 26% of cases. The proportion of stillbirths due to infection was approximately 15%. Umbilical cord abnormalities accounted for 10% of cases. The criteria for including a cord complication as the cause of death was vasa praevia, cord entrapment, stricture with thrombi. This is an important departure because cord issues were previously overlooked due to the lack of scientific causation data. One of the major challenges is that it has been technically difficult to determine the cause of the demise in individual cases. Post-mortem rates have declined to 50% due to clinicians’ lack of knowledge on its importance and the limited availability of perinatal pathology services. Another issue has been the artificial 20 weeks boundary between miscarriage and stillbirth. This was based on the theory that pregnancy loss before 20 weeks were too early for consistent diagnosis. However, reports demonstrated the importance of a thorough investigation of each case. The relationship appears to be due to obstetric complications and infection or a combination of both.

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