Increasingly, obstetricians and neonatologists work together as a perinatal team, along with pathologists, radiologists, geneticists, midwives, neonatal nurses, and other disciplines. The ideal perinatal team brings the neonatologist to meet with parents for whom fetal death has occurred or where fetal demise is anticipated. Equally the obstetrician should demonstrate an ongoing commitment to families where a neonatal death has occurred. It may be that the obstetrician’s and neonatologist’s views, as presented separately below, create an artificial divide where none exists. Nonetheless, it is possible to learn from one another’s perspectives and that is the purpose of this chapter.

The Purpose of the Necropsy

The necropsy has contributed to knowledge in several well-documented ways:

- It establishes the definitive cause and manner of death (Landefeld et al. 1988).
- It identifies unsuspected associated findings (Maniscalco and Clarke 1982).
- It provides wider benefits to society, including public health statistics (Anderson 1977; Williams and Perry 1977).
- It elucidates pathogenic mechanisms and new diseases (Lundberg 1983).
- It evaluates the accuracy of clinical diagnoses and the efficacy and safety of new diagnostic or therapeutic interventions (Dahms 1986).

In many parts of the developed world the role of the perinatal necropsy has diminished in status, for a number of reasons. There may be a touching faith in the accuracy of noninvasive technology to provide all answers. There may be a suspicion that clinicians wish to experiment on deceased fetuses and newborns. These understandable beliefs may in part have stemmed both from the failure of obstetricians and neonatologists to explain to families the limitations of sophisticated equipment and from secrecy around the process of necropsy. Such secrecy was often well intentioned, and generally stemmed from a misguided wish to protect vulnerable parents from the details of the examination of their baby’s body. In 2003 the British Medical Journal devoted an issue to the subject of death. It included five editorials and five original articles on mortality: the subject of necropsy was not mentioned once (Anon 2003).

There is an easy path for all clinicians. We can avoid asking for autopsies because the “baby has suffered enough” and suggest that our clinical skills, imaging, phlebotomy, microbiology, and histological capabilities have already given us the complete answer to the causes of the demise of the fetus or neonate. To take this line is to abrogate our responsibilities to the family. It is essential that we as clinicians should persuade our professional colleagues of the high value of necropsy, especially to bereaved families. Professionals should emphasize to parents that it is their opportunity and right to have a necropsy carried out on their baby. Only then can the most appropriate counseling be entered into with accuracy, confidence, and in a spirit of trust.
• It contributes to the education of medical students (Lundberg 1983), clinicians (Prutting 1977; Friederici and Sebastian 1984), and pathologists (Berthrong 1984).

The Fetal Necropsy: An Obstetrician’s Perspective

Perinatal death is an uncommon event, occurring in around eight per thousand pregnancies (Scottish Perinatal and Infant Mortality Report 2001; Confidential Enquiry into Maternal and Child Health 2005). This low rate, with a trend toward lower family size in most developed countries, has led to the parental expectation that every pregnancy will result in a normal healthy baby (Department of Health 2006). The perception is further compounded by the unrealistic expectation that advances in antenatal screening and diagnostic tests and fetal monitoring techniques will guarantee that nothing goes wrong. The diagnosis of a fetal abnormality or of intrauterine death is, then, devastating for parents, and they expect a full explanation of what and how things have gone wrong.

The value of the perinatal necropsy to the obstetrician extends far beyond the search for a cause of death. It is very valuable in the counseling of parents (Faye-Peterson et al. 1999). It may help in the grieving process and reduce the natural tendency for parents to blame themselves for the baby’s death (Beckwith 1989). Genetic or obstetric factors relevant in the management of subsequent pregnancies may also be identified. These can form a basis for planning care. Necropsy may confirm or refute diagnoses made by new techniques and thus contribute to their evaluation as well as forming a basis for research and education. It can also be used to monitor the adverse effects of diagnostic tests and new treatments, and is very important in the audit of clinical practice, particularly when there has been a poor outcome. Conversely the necropsy may provide reassurance to obstetricians about their management of the pregnancy. Finally, it may provide valuable information for epidemiological surveys and national statistics.

The areas of major importance to the obstetrician of the perinatal postmortem are the investigation of stillbirth, the investigation of intrapartum death, the diagnosis of congenital abnormalities, and the audit of obstetric practice and education.

The Classification of Stillbirth

Stillbirths can be classified using three different methods: the pathophysiological method (Wigglesworth 1980), the fetal and neonatal classification (Hey et al. 1986), and the obstetric (Aberdeen) classification (Cole et al. 1986). When classified according to the extended Wigglesworth classification, unexplained antepartum stillbirth is the biggest group (incidence 4.06 per 1000 births); (Confidential Enquiry into Maternal and Child Health 2005) representing 70.7% of all stillbirths in 2003. The largest identifiable causes of death are congenital abnormality (15.2% in 2003) and intrapartum causes (7.6% in 2003). When unexplained antepartum deaths are classified using an obstetric (Aberdeen) classification, the proportion of unexplained deaths falls to 51% of all stillbirths. The remainder include stillbirths due to antepartum hemorrhage, maternal disorder, preeclampsia, and mechanical complications (8%, 5.1%, 3.9%, and 1.1% of all stillbirths in 2003, respectively); (Confidential Enquiry into Maternal and Child Health 2005).

The Investigation of Stillbirth

The causes of antepartum stillbirth are many and varied. However, a large number remain unexplained. Investigations routinely used include maternal serology for viral causes of stillbirth including cytomegalovirus (CMV), toxoplasmosis, rubella, herpes simplex, and parvovirus B19 (Benirschke and Robb 1987). Tests for the presence of antinuclear, antiphospholipid, and anticardiolipin antibodies and lupus anticoagulant are routine in the United Kingdom. The Kleihauer test reveals recent fetomaternal hemorrhage. Maternal blood cultures are done if Listeria is suspected. Estimation of maternal blood glucose may reveal previously undiagnosed diabetes. The fetal necropsy, however, is the investigation most likely to provide answers in the investigation of antenatal stillbirth, and pathological examination of the placenta may reveal a significant abnormality.