

RPA Newborn Care Guidelines

Royal Prince Alfred Hospital

Stillbirths

Responsibility for the examination of stillbirths - Paediatric staff
Responsibility for permission for autopsy of stillbirths - Obstetric staff

(Paediatric staff are responsible for the investigation and permission for autopsy of neonatal deaths, unless the baby was previable or was induced for known lethal fetal abnormalities. In these cases the obstetric staff are responsible for obtaining autopsy permission).

INTRODUCTION

Stillbirth is defined in Australia as the loss of a fetus who shows no signs of life at birth and is at least 20 weeks in gestation or 400 grams in birthweight if gestation unknown.

INCIDENCE

In Australia from 1992 – 2003 the stillbirth rate has declined from 6.4 to 5.1 per 1,000 births¹. This has coincided with an overall decline in the perinatal mortality rate from 11 to 8 per 1,000 births¹. Stillbirths, however, continue to account for two thirds of all perinatal deaths. In New South Wales, population based surveillance is performed by The Midwives Data Collection with a rate of 6.0 per 1,000 births reported in 2003². (NSW Mothers and Babies 2003)

RISK FACTORS

The underlying aetiology for stillbirth is felt to be multifactorial with frequently cited risk factors including: maternal age, smoking, maternal weight, parity and socio-economic status. Many studies are retrospective reviews of established Mortality databases and there is a lack of more detailed prospectively collected information. Despite current knowledge regarding stillbirth there is much that is unknown and the area has been relatively understudied. In fact in 2002, 45% of stillbirths in Australia reported no specific cause¹. Stillbirths nearer to term are more likely to be classified as unexplained than very preterm stillbirths². Post mortem has an important role in documentation of causation for stillbirth with the percentage of unexplained fetal deaths decreasing if autopsy is performed. NSW currently has the lowest perinatal post mortem rate in Australia. In 2002, 30.3% of perinatal deaths in NSW had an autopsy with the percentage of unexplained stillbirths 39.2%. This rate of unexplained stillbirth is significantly higher than the

South Australian unexplained stillbirth rate of 24.6% where post mortem was performed in 63.1% of perinatal deaths.^{2,3}

CLASSIFICATION

The classification of stillbirth in Australia and New Zealand was revised in 2002 with the aim of providing a uniform system for National use. Renamed the PSANZ-PDC (Perinatal Death Classification) in 2003 the system includes both obstetric and fetal factors as well as autopsy findings and placental pathology⁴. It has high interobserver reliability with a kappa statistic from 0.83– 0.954. The classification has been in use in NSW since 2002. A clinical practice guideline written by the Perinatal Mortality Special Interest Group incorporating the classification has recently been endorsed by the Royal Australian and New Zealand College of Obstetrics and Gynaecologists.⁵

INVESTIGATION

The Perinatal Mortality Special Interest Group Clinical Practice Guideline for Perinatal Mortality Audit can be viewed at this website http://www.materrsc.org/page/psanz/pnmsig/pnmsig_guideline.html The establishment of the group was the culmination of collaborative efforts of members of the Perinatal Society of Australia and New Zealand (PSANZ) over many years. The objective of the guideline is to assist clinicians in the investigation and audit of perinatal deaths and to enable a systematic approach to this in Australia and New Zealand. It is designed to provide reliable, up to date information enabling integration of best practice into clinical care decisions.

INVESTIGATION CHECK LIST:

The following investigations are based on recommended best practice from the above guideline. A flowchart is attached as Appendix A. Although this is the ideal for thorough investigation we are aware that it may not be possible or feasible to perform every investigation in certain situations.

1. Paediatric Staff:

- Aim to examine the baby as early as possible while being sensitive to the needs of grieving parents.
- Should introduce themselves to the parents and explain and seek consent for the procedure and investigations.
- The following should be documented with the baby front sheet in the maternal notes.

Baby:

- Examination of the baby, including measurement of length, weight and head circumference.
- A checklist is attached as Appendix B. This checklist is located in the pink stillbirth folder in labour ward, please ask any midwife or labour ward staff member.

- Core Investigations
 - Babygram (If autopsy NOT performed)
 - Full blood count and film (cord blood or intracardiac puncture)
 - Bacterial
 - Swabs of ear and throat
 - Post mortem blood culture from an intracardiac puncture
 - Viral
 - There is a research study on the role of viral infection and stillbirth. Please look at study flowchart in labour ward to see if eligible and contact Dr Adrienne Gordon (pager 88755)
 - Genetic
 - In cases with possible dysmorphology, consider involving the Genetics Service (contact through RPA switchboard) to examine the baby.
 - If no antenatal karyotype has been performed then cord blood or blood from cardiac puncture should be sent for karyotyping
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2. Obstetric Staff:

Mother:

- Maternal history
 - Obstetric history
 - Ultrasound (for DIU)
 - Fetal abnormalities
 - Amniotic Fluid Volume
1. Maternal Investigations:
 - FBC and film
 - Group and Coombs
 - low vaginal swab
 - HbA1c
 - Quantitative feto-maternal haemorrhage test on maternal blood
 - Renal function
 - Liver function
 - Serology
 - CMV
 - Toxoplasma
 - Parvovirus B19
 - Rubella (if not performed previously)
 - Syphilis (if not performed previously)
 - Thrombophilia screen
 - Anticardiolipin antibodies
 - Lupus anticoagulant
 - APC resistance
 2. Amniocentesis
 - Sample for micro
 - Sample for chromosomes (if no antenatal karyotype previously)
 3. Placenta:
 - Macroscopic examination The following investigations should be performed by the Pathologist
 - Placental swabs (between amnion and chorion)

- Biopsy of placenta and amnion for chromosomal analysis (If no previous karyotype and Pathologist concerned about dysmorphology)
 - Histopathology
 - 4. Autopsy
 - Clinicians should discuss the value of an autopsy with the parents in all cases of stillbirth. This is best done by an experienced clinician who has a rapport and understanding with the parents and who is able to answer practical questions such as what actually happens and how their baby will look after the PM. In most cases this will be the obstetric consultant.
 - If consent for autopsy is obtained proceed as per autopsy policy.
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References:

1. Australian Bureau of Statistics. Causes of Death Australia 2002. *Cat No 3303.0* Canberra: ABS **2003**
 2. Centre for Epidemiology and Research, NSW Department of Health. New South Wales Mothers and Babies 2002. *NSW Public Health Bulletin* 2003; **14 (S-3)**
 3. Department of Human Services, South Australia. Maternal, Perinatal and Infant Mortality in South Australia 2002. *17th Report of the Maternal, Perinatal and Infant Mortality Committee*. Department of Human Services, Adelaide **2003**
 4. A Chan, JF King, Flenady V, RH Haslam, DI Tudehope. Classification of perinatal deaths: Development of the Australian and New Zealand Classifications. *Journal of Paediatrics and Child Health* 2004; **40**: 340-347
 5. http://www.materrsc.org/page/psanz/pnmsig/pnmsig_guideline.html
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