CITATION: *Inquest into the death of Kalotina Galimitakis [2012] NTMC 030*

TITLE OF COURT:	Coroner's Court
JURISDICTION:	Darwin
FILE NO(s):	D0143/2011
DELIVERED ON:	27 August 2012
DELIVERED AT:	Darwin
HEARING DATE(s):	16 and 17 July 2012
FINDING OF:	Mr Greg Cavanagh SM
CATCHWORDS:	**Unexpected death of baby, Hospital Birth, Paediatric Treatment, Communication with parents**

REPRESENTATION:

Counsel:

Assisting:	Jodi Truman
Department of Health	Amanda Taylor
Dr Engelman	Miles Crawley

Judgment category classification:	B
Judgement ID number:	[2012] NTMC 030
Number of paragraphs:	119
Number of pages:	36

IN THE CORONER'S COURT
AT DARWIN IN THE NORTHERN
TERRITORY OF AUSTRALIA

No. D0143/2012

In the matter of an Inquest into the death of
KALOTINA GALIMITAKIS
ON 7 SEPTEMBER 2011
AT ROYAL DARWIN HOSPITAL,
DARWIN

FINDINGS

Mr Greg Cavanagh SM

Introduction

1. Kalotina Galimitakis ("Baby Kalotina") was a female of Greek/Australian descent born at 5.17pm on 7 September 2011 at the Royal Darwin Hospital ("RDH") in the Northern Territory of Australia. Baby Kalotina was the first child to Mikes and Kondilo Galimitakis ("Mr and Mrs Galimitakis").

2. Baby Kalotina died just a little over four hours after her birth at approximately 9.30pm on 7 September 2011 at the RDH after care was withdrawn. Her death was unexpected and thus reportable to me pursuant to s.12 of the *Coroners Act*. The holding of a public inquest is not mandatory but was held as a matter of my discretion pursuant to s.15 of that Act.

3. Counsel assisting me at this inquest was Ms Jodi Truman. Ms Amanda Taylor was granted leave to appear on behalf of the Department of Health. Mr Miles Crawley was granted leave to appear for Dr Engelman. I thank each Counsel for their assistance in this matter.

4. It is noted that Mr and Mrs Galimitakis were in attendance at the inquest together with extended family members and friends. I am aware from the evidence before me, that the circumstances of this death have caused

significant distress to Mr and Mrs Galimitakis who have a number of concerns related to the care, treatment and assistance that was offered to their baby by the RDH. Their concerns were matters that I considered carefully throughout this inquest.

The Conduct of this Inquest

5. A total of eight witnesses gave evidence before me. Those persons were:

   5.1 Acting Sergeant Samantha Harrison, the Officer in charge of the Coronial Investigation.

   5.2 Registered Nurse ("RN") Amy O'Dwyer, nurse and midwife on duty on the relevant day in the birthing suite;

   5.3 Registered Nurse ("RN") Elaine Wardrop, Team Leader for the special care nursery on the relevant day;

   5.4 Dr Peta Wright, obstetrics and gynaecology registrar;

   5.5 Dr Carolyn MacLennan, paediatrician;

   5.6 Dr Daniel Engelman, paediatric registrar;

   5.7 Professor Jeremy Oats, , Consultant obstetrician at the Royal Women's Hospital in Victoria and Chair of the Victorian Consultative Council on Obstetric and Paediatric Mortality and Morbidity;

   5.8 Dr Charles Kilburn, Paediatrician and Co-Director of Maternity and Child Health at the Royal Darwin Hospital.

6. A brief of evidence containing 13 statutory declarations and numerous other reports, photographs, police documentation, and medical records were tendered into evidence ("exhibit 1"). I also received a statement from Dr Kilburn which attached the Internal Root Cause Analysis Report that was

undertaken by the RDH following this death, together with numerous other documents ("exhibit 6"). The death was investigated by Acting Sergeant Samantha Harrison who prepared a thorough investigation brief and I thank her for her assistance.

Formal Findings

7. Pursuant to s.34 of the Act, I am required to make the following findings:

> "(1) A Coroner investigating:
>
> a. A death shall, if possible, find:
>
> (i) The identity of the deceased person.
>
> (ii) The time and place of death.
>
> (iii) The cause of death.
>
> (iv) Particulars required to register the death under the *Births Deaths and Marriages Registration Act*"

8. I note that section 34(2) of the Act also provides that I may comment on a matter including public health or safety connected with the death being investigated. Additionally, I may make recommendations pursuant to section 35 as follows:

> "(1) A Coroner may report to the Attorney General on a death or disaster investigated by the Coroner.
>
> (2) A Coroner may make recommendations to the Attorney General on a matter, including public health or safety or the administration of justice connected with a death or disaster investigated by the Coroner.
>
> (3) A Coroner shall report to the Commissioner of police and Director of Public Prosecutions appointed under the Director

of Public Prosecutions Act if the Coroner believes that a crime may have been committed in connection with a death or disaster investigated by the Coroner"

9. On the basis of the tendered material and oral evidence received at this inquest I am able to make the following formal findings:

i. The identity of the deceased person was Kalotina Galimitakis born 7 September 2011 at 5.17pm at the Royal Darwin Hospital in Darwin in the Northern Territory of Australia.

ii. The time and place of death was approximately 9.30pm on 7 September 2011 at the Royal Darwin Hospital.

iii. I find that the cause of death was acute blood loss.

iv. Particulars required to register the death:

a. The deceased was a female.

b. The deceased's name was Kalotina Galimitakis.

c. The deceased was of Greek/Australian descent.

d. The death was reported to the Coroner.

e. A post mortem examination was carried out by Dr Terence Sinton who investigated and discussed the possible causes of death.

f. The deceased's mother was Kondilo Galimitakis and her father was Mikes Galimitakis.

g. The deceased would have lived at 2/5 Glyde Court in Leanyer in the Northern Territory of Australia.

Evidence of the Circumstances Surrounding the Death

10. According to the evidence, Mrs Kondilo Galimitakis ("Mrs Galimitakis") had an uneventful pregnancy and regular consultations with her General Practitioner. On the morning of the 7th of September 2011 Mrs Galimitakis was in bed at home when her waters ruptured. She phoned the birthing suite at the hospital at about 9.45am and was told to attend for assessment. Mrs Galimitakis also contacted her husband, Mikes ("Mr Galimitakis"), and told him what was happening. She then drove herself to the birthing suite at Royal Darwin Hospital and is recorded as arriving at about 10.20am.

11. Mr Galimitakis attended at the hospital shortly thereafter and following numerous tests it was confirmed that Mrs Galimitakis' waters had ruptured, but she was not dilated. As a result she was told she could go home. Mrs Galimitakis was given instructions in relation to certain signs or other symptoms to look out for and was told to contact the hospital if there were any changes. Mr and Mrs Galimitakis then returned home at around 12.15 pm.

12. At around 2.15 pm Mrs Galimitakis noted one of the changes she had been advised to look for. She made contact with the birthing suite and was told to come in as they thought she may be in labour. The couple arrived at Royal Darwin Hospital around 2.45 pm. Mrs Galimitakis was placed on monitors and informed that the baby was not moving but appeared to be asleep, and had a strong heartbeat.

Events at the hospital

13. After a short period, nursing staff removed the monitors and told Mr and Mrs Galimitakis that they could go home again as nothing was happening. Mrs Galimitakis provided a statement that at this time she felt fine, but after sitting up and shifting on the bed she observed blood. As a result, Mr Galimitakis went to find assistance and reported that his wife was bleeding. This was at about 3.35pm. At this time, the registrar on duty for obstetrics and gynaecology, Dr Peta Wright, attended together with RN Amy O'Dwyer.

Dr Wright conducted an assessment and advised the couple that their baby would be coming and there may be the need to perform an emergency caesarean.

14. RN O'Dwyer placed the Cardiotocography ("CTG") monitor back on and was told by Dr Wright to commence the induction of labour. There was a further discharge of blood and liquor and RN O'Dwyer advised the Registrar and Team Leader. I received evidence that liquor is a reference to fluid around the baby. At this time the foetal heart rate was recorded on the CTG as being within normal limits. RN O'Dwyer gave evidence that at this time she was not "overly" concerned because (tp.16):

> "... if someone is going into labour and is dilating rapidly there can be this bleeding".

RN O'Dwyer stated she was:

> "... reassured by the foetal heart rate".

15. Unfortunately however at 4.40 pm RN O'Dwyer noted that the foetal heart rate had dropped suddenly from 160 beats per minute to 85 beats per minute. Dr Wright conducted another internal examination during which time there was further blood noted. The estimation of total blood loss up to this time was approximately 400 ml. A foetal scalp electrode was put in place and the heart rate was recorded at 80-90 beats per minute.

16. At approximately 4.45pm, Dr Wright called the on call paediatric registrar and spoke to Dr Daniel Engelman. Dr Wright advised Dr Engelman that she was on her way to perform a category A1 caesarean section for foetal distress in the setting of an ante partum haemorrhage and that it would most likely be occurring under general anaesthetic. Dr Wright advised that the estimated total blood loss was 400 ml and she requested assistance.

17. Mrs Galimitakis was then prepared for theatre and arrived at 5.07pm. At this time the foetal heart rate had improved and was recorded at 170 beats

per minute. Mrs Galimitakis was given a general anaesthetic to expedite delivery. Dr Engelman was already in the theatre upon the arrival of Mrs Galimitakis and again information was provided as to the total estimated blood loss.

18. Baby Kalotina was born at 5.17 pm. She weighed approximately 3.89 kilograms and was noted to be pale upon delivery. Dr Wright handed baby Kalotina to RN O'Dwyer who then placed her in the resuscitaire. This is an open cot where access to the baby can be gained from three sides.

19. Baby Kalotina's birth summary records her APGAR score as 3 at 1 minute following birth, 5 at 5 minutes following birth and 7 at 10 minutes following birth. This score relates to a screening test to determine whether a newborn needs medical attention to stabilise the heart for breathing function. The 1-minute score determines how well the baby tolerated the birthing process and the 5-minute score assesses how well the newborn is adapting to the new environment. The rating is based on a total score out of 10, with 10 suggesting the healthiest infant. A score of 7, 8, or 9 is normal and is a sign that the newborn is in good health.

20. Following the birth of Baby Kalotina, Dr Wright continued to work on Mrs Galimitakis, whilst Dr Engelman worked on baby Kalotina. The theatre was set up so that Dr Wright's back was to the resuscitaire where Dr Engelman was working on the baby. One of the issues considered at this inquest was the flow of information between Dr Wright's obstetric team, and Dr Engelman's pediatric team whilst in the theatre and its impact (if any) on the passing of baby Kalotina. I will return to this issue later in this decision.

21. It appears on the evidence that there were some difficulties in obtaining the baby's heart rate at this time. Baby Kalotina was being stimulated by rubbing with a towel, and her mouth was suctioned by Dr Engelman, removing blood from her oropharynx, oesophagus and stomach. Eventually her heart rate was recorded at 100 beats per minute.

22. There were some difficulties in securing a saturation probe to baby Kalotina to measure her oxygen saturation rates. Eventually the probe was put in place and it gave readings of oxygen saturations at levels above 90. After approximately 10-15 mins a decision was made by Dr Engelman to transfer baby Kalotina to the special care nursery for possible continuous positive air pressure ("CPAP") to assist baby Kalotina with her breathing, and for further investigations through blood testing.

23. Dr Engelman requested contact be made to the special care nursery to advise of her transfer. It appears on the evidence that prior to this time the special care nursery had not been advised of the performance of a category A1 caesarean. A further issue considered at this inquest was what effect, if any, the failure to comply with protocols had upon the passing of this baby and I will return to this later in these reasons.

24. At about the same time RN O'Dwyer was collecting the placenta to undertake a visual examination and to take swabs for testing by Pathology. At this time she noted that despite normal procedure during an emergency caesarean, there had in fact been no blood gases taken. Again, this was an issue for consideration at this inquest in terms of what effect, if any, the failure to obtain such readings had upon the passing of baby Kalotina.

25. RN O'Dwyer stated that the swabbing and inspection of the placenta occurs in the delivery suites, and not the theatre, as that is where the swabs, solution and various other items are located for such tests to be sent to pathology. During her inspection of the placenta RN O'Dwyer observed that the placenta was "a very unusual shape" and instead of having an appearance "round like a dinner plate", this placenta had (tp. 21):

> "... a central body and then tow sort of lobes either side. It was gritty in - in texture. And I noticed the – the vessels were not imbedded in the placenta, they were through the membrane".

26. RN O'Dwyer gave evidence that this told her that there was a velamentous insertion of the placenta. RN O'Dwyer stated she had seen one before and she also noted that on this occasion the vessels appeared to be severed. She stated this was "unusual" and she had "never seen that before". RN O'Dwyer gave evidence that she understood at that time that a velamentous insertion meant (tp.21):

> "... there can be complications but I was quite junior at that time and I knew it was unusual, I knew people needed to know about it, but the – I guess the impact of it I didn't know".

27. Swabs were taken by RN O'Dwyer at 5.30pm and sent to pathology. RN O'Dwyer stated she also advised her Team Leader of her observations and showed her the placenta. The results from Pathology were subsequently received at about 7.28pm and confirmed there was a velamentous insertion of the umbilical cord.

28. I received evidence as to the significance of this conditions and will return to this later in these reasons in terms of the risk factors, the possibility of early testing for such conditions, and what, if anything could or should have been done in this birth that may have avoided baby Kalotina's death.

29. Upon the evidence, Dr Engelman left the theatre with baby Kalotina and headed to the special care nursery arriving at about 5.45pm. On the way, Mr Galimitakis was outside of the birthing theatre and was told by Dr Engelman that he had a baby girl. Mr Galimitakis recalled in his statement being advised by Dr Engelman that baby Kalotina was healthy, breathing on her own and had a strong heart rate, but was in the "incubator" because she was receiving fresh oxygen. Mr Galimitakis sets out in his statement that he was not concerned at this time as to the condition of his baby as everyone was walking at a "casual pace" and it was his understanding from what he was told that his baby was simply going to the 6th floor to have some blood tests.

30. Upon arrival at the special care nursery, Baby Kalotina was placed into the isolette cot in bay 3. Although she was breathing on her own, it was shallow and she was still pale. After approximately five minutes her oxygen saturations had increased to 100% and she was becoming pinker.

31. In the meantime, Dr Wright completed the caesarean upon Mrs Galimitakis at 5.56pm and after finishing her notes she attended upon Mrs Galimitakis in recovery and told her that she had had a baby girl, that it appeared there was a foetal bleed, but that the baby was moving, crying, breathing and receiving further treatment from the paediatrician.

32. I received evidence that RN O'Dwyer also attended at the special care nursery shortly after baby Kalotina's arrival and advised Dr Engelman of her findings in relation to the placenta. RN O'Dwyer stated that she told Dr Engelman that blood gases had not been taken and that the "placenta looked unhealthy and unusual to me". RN O'Dwyer stated she could not recall if she said anything to Dr Engleman in relation to a velamentous insertion. At that time Dr Engelman was attempting to insert a peripheral intravenous or IV line into baby Kalotina. I heard evidence from RN O'Dwyer that Dr Engelman simply stated that he was still attempting to resuscitate the baby, but otherwise there was no further response. RN O'Dwyer stated that Dr Engelman did not appear to "take in" what she had told him.

33. Following this period Dr Engelman contacted Dr Danielle Freeman who was then employed as the specialist neonatologist and locum consultant at the RDH. This was despite the fact that Dr Engelman knew that Dr Freeman was not the on call paediatric consultant that day and that it was in fact Dr Carolyn MacLennan.

34. Dr Freeman's statement to police was tendered into evidence before me. Its contents, and her recollections, were not disputed by any person. Both counsel for the Department and counsel for Dr Engelman had consented to

the tender of her statement without requiring her for cross examination. I therefore accept the matters set out in Dr Freeman's statement.

35. Dr Freeman recalled receiving this first phone call about baby Kalotina at about 6.14pm. Dr Freeman recalled being told by Dr Engelman that he was having some difficulty in obtaining intravenous access and sought her assistance. Dr Freeman stated that she was not available and that he should contact the on call consultant, Dr MacLennan. Dr Freeman set out in her statement that she was told by Dr Engelman that baby Kalotina was more than half an hour of age, had not been born in very poor condition, was in the special care nursery self-ventilating with normal oxygen saturations and that he was going to gain access to take blood gas and a full blood count and seek a cross match in case of the need for a blood transfusion. She recalled that she was also told by Dr Engelman that there was no respiratory distress. Dr Freeman advised Dr Engelman that she was not able to assist and he should call the on-call paediatrician, namely Dr MacLennan.

36. Despite the consent to the tender of the statement of Dr Freeman, Dr Engelman gave evidence that his recollection of the conversation with Dr Freeman was (tp.92):

> "I remember calling and Dr Freeman answered her mobile phone and I think I said something like 'are you available to come and help with a procedure to insert – with a procedure'. And she said that she wasn't. She then asked some further information about the baby but I'd already made up my mind that I needed to end that conversation and talk with someone who was able to provide the support that was required – that I was requesting".

37. Dr Engleman went on to give evidence that he did not remember telling Dr Freeman that the baby was "now more than half an hour of age". Significantly when asked if he recalled telling Dr Freeman that the baby had not been born in very poor condition, Dr Freeman stated:

> "Absolutely did not. I do not think I told her that".

And

> "I cannot imagine why I would have said that. I cannot imagine saying it".

38. As stated earlier in these reasons, I note the earlier consent given by counsel for Dr Engelman to the tender of Dr Freeman's statement without cross examination. For these reasons I do not accept Dr Engelman's evidence concerning that conversation and accept the evidence contained in the statement of Dr Freeman.

39. It appears from the evidence that Dr MacLennan was then contacted at about 6.20pm. Dr MacLennan gave evidence that she was advised that intravenous access could not be obtained. Dr MacLennan gave advice to Dr Engelman to attempt an umbilical venous catheter or intraosseous insertion and she then left her home at Rapid Creek to attend at the hospital.

40. In terms of being on call, I heard evidence from Dr MacLennan that this meant that at 4.21pm you were permitted to leave the hospital, but are required to be within a travel distance of approximately 20 minutes to return to the hospital if required. Dr MacLennan stated that she had previously been at the hospital when Dr Engelman was advised of the emergency caesarean, however Dr MacLennan stated that despite being aware that this was an emergency caesarean for an antepartum haemorrhage, she did not "need" to stay in the hospital and therefore left and went home. I will return to this aspect later.

41. Attempts were then made by Dr Engelman to perform an umbilical venous catheterisation in order to provide fluids to the baby. In order to carry out this procedure however, baby Kalotina was required to be transferred from the isolette and back into the open care system. During this transfer, baby Kalotina deteriorated rapidly and a code blue was called at about 6.30pm. Again, this was an issue for consideration at this inquest in terms of whether this distress to baby Kalotina may have been reduced if she had been in the

open care system throughout and the appropriateness of the decision to have placed her in the isolette in the first instance.

42. Upon the calling of the code blue, the ICU team arrived and assisted with intubation. I received evidence that blood was noted to be coming from the mouth and nose of baby Kalotina. Dr MacLennan arrived around this time and an umbilical venous catheter was performed and fluids administered. In addition an umbilical arterial catheter was also performed and bloods were collected for cross match and testing.

43. Following this testing it was discovered that baby Kalotina's blood gas results were extremely poor with a low ph., acidosis, increased lactate, hypoxia, increased carbon dioxide and anaemia. Further fluids were given and blood was requested.

44. According to the statement given by Dr Freeman she received a further call from Dr Engelman at 7.35pm at which time she was told that the baby was very sick. Dr Freeman gave advice as to ventilation, initiation of total body hypothermia, electroencephalographic ("EEG") monitoring and the likely need for inotropic support. Dr Freeman also left her dinner to attend at the hospital.

45. Shortly thereafter baby Kalotina was noted to have no heart rate and no cardiac output. A further code blue was called at 7.50pm. Fluids and blood were provided, together with multiple doses of adrenaline, whilst chest compressions were performed.

46. Dr Freeman arrived at about 8.10pm and sets out in her statement that baby Kalotina appeared by this stage to be very unwell with mottled skin, an extremely slow heart rate and weak peripheral pulses. The baby had poor gag reflex, large, sluggish reactive pupils and abnormal posturing and upper limb movements, which Dr Freeman considered were consistent with seizures. Dr Freeman assessed the situation to be severe hypoxic ischaemic

encephalopathy ("HIE"). I received evidence that this is a lack of sufficient oxygen to the brain and a diminished amount of blood supply to the brain. Dr Freeman set out in her statement that she considered the HIE was likely to have occurred due to significant peri partum blood loss and that if baby Kalotina survived, she was likely to have significant neurodevelopmental impairment.

47. As a result, Dr Freeman made arrangements to keep baby Kalotina stable whilst she spoke with Mr and Mrs Galimitakis. It appears that on the evidence, Mr and Mrs Galimitakis had not been made aware prior to that point as to the significant deterioration in their baby daughter's condition. This clearly caused them significant distress when they were finally spoken to by Dr Freeman. Eventually however, and after discussion with Dr Freeman of their options and the likely consequences for baby Kalotina, Mr and Mrs Galimitakis made the heartbreaking decision to have care withdrawn and baby Kalotina passed away at about 9.30pm.

Cause of Death

48. As stated at the outset, the cause of death of baby Kalotina was a matter of particular issue at this inquest. An autopsy was undertaken by Dr Terence Sinton on 9 September 2011. His report was tendered into evidence as part of exhibit 1. Dr Sinton's autopsy report notes that:

> "... there was no evidence of any clinically significant naturally occurring disease process, congenital abnormality or trauma which might have caused or contributed to her death".

He was therefore unable to determine the cause of death.

49. In relation to the possible cause of death, I received as part of exhibit 1 a report of a review conducted by Dr Helen Liley, Neonatal Paediatrician employed as a Staff Specialist at Mater Mothers' Hospital, South Brisbane, Queensland. This review was conducted by Dr Liley at the request of the RDH to:

> "... comment on the perinatal and neonatal care of Kalotina Galimitakis, her prognosis, her resuscitation, including the role of the registrar, and recommendations arising...".

50. I note that this review by the RDH was conducted independently of this inquest. I consider this to be a proactive approach taken by the RDH and one to be encouraged as it enables the RDH to put in place any changes deemed necessary upon their own review without waiting for the results of an inquest. This hopefully then results in more timely changes being made in the hope of avoiding such deaths in the future.

51. Dr Liley gave evidence that it was her opinion that baby Kalotina had

> "... suffered acute severe foetal blood loss over an interval of about one and a half to two hours before birth".

She went on to find that the factors supportive of such a finding were:

> "... the presence of risk factors (antepartum haemorrhage in the setting of velamentous insertion of the cord into a low-lying placenta), the baby's marked pallor even after adequate breathing and heart rate had been achieved (within a few minutes after birth), the low haemoglobin prior to the administration of fluids, the severe coagulopathy (which implies likely consumption of clotting factors)".

52. Dr Liley estimated that baby Kalotina had:

> "... lost at least 20% and possibly up to 45 or 50% of the feto-placental blood volume in the 1 ½ to 2 hours before birth".

She went on to find that:

> "The rapid deterioration in her condition and poor responses to volume resuscitation would be more consistent with the higher estimates. Nevertheless, rapid, acute blood loss of only 20-30% is probably sufficient to cause very significant foetal and neonatal compromise".

53. Dr Liley went on to conclude:

> "In my opinion, in the case of baby Kalotina Galimitakis, the velamentous insertion of her umbilical cord into the placenta most likely led to rupture of a foetal placental vein during labour, leading to a life-threatening haemorrhage of between a quarter and half of the feto-placental blood volume".

54. I also received evidence from Dr Charles Kilburn, Paediatrician and Co-Director of Maternity and Child Health at RDH. Dr Kilburn provided a statement which was tendered into evidence before me as exhibit 6. Within that statement, Dr Kilburn opined:

> "The expert consensus is that Baby Galimitakis died from acute blood loss due to an abnormal formation and course of the umbilical cord blood vessels, velamentous insertion of the cord and likely vasa previa. The abnormal formation of the blood vessels (velamentous insertion) meant that the blood vessels were not protected from potential rupture or compression. Their abnormal course (vasa previa) resulted in a high risk of the blood vessels rupturing and causing significant foetal blood loss with rupture of the membranes, which tragically occurred in this case".

55. It is as a result of the evidence before me that I find that the cause of baby Kalotina's death was acute blood loss due to an abnormal formation and course of the umbilical cord blood vessels, velamentous insertion of the cord and likely vasa previa.

Issues for further consideration

56. As a result of this finding it is then necessary to turn to the other issues that were raised for consideration upon the evidence. These are as follows:

56.1 The discovery of the conditions leading to the cause of death, namely velamentous insertion of the cord and likely vasa previa;

56.2 The communication flowing between the obstetric and paediatric teams;

56.3 The failure to comply with protocols relating to the carrying out of caesarean procedures;

56.4 The failure to undertake various tests in accordance with usual procedure;

56.5 The effect of the transfer of baby Kalotina during the course of treatment.

The discovery of the conditions leading to the cause of death, namely velamentous insertion of the cord and likely vasa previa

57. I received evidence during the course of this inquest that normally the veins of the baby run from the middle of the placenta via the umbilical cord to the baby. In a velamentous umbilical cord insertion, the placental end of the cord consists of divergent umbilical vessels surrounded only by foetal membranes with no Wharton's jelly. This jelly is a specialised tissue which contains gelatine like mucus and encases and protects the umbilical cord. When it is absent or low, the cord is at risk of potential rupture or compression and this can result in the death of the baby. The term velamentous insertion is used to describe the condition in which the umbilical cord inserts on the chorioamniotic membranes, rather than on the placental mass.

58. The most significant problem that can arise from velamentous cord insertion is vasa previa, which is a dangerous condition in which the velamentous umbilical vessels traverse the foetal membranes. These unprotected vessels may rupture at any time during pregnancy, causing significant foetal blood loss with rupture of the membranes.

59. I received evidence via attachment "A" to the statement of Dr Kilburn that the incidence of velamentous insertion of the cord is estimated to be about 1 in 100 of single baby births of full term, whilst vasa previa is estimated to complicate about 1 in 2,500 deliveries. As can be seen by these figures, vasa previa is a rare cause of complication.

60. In terms of velamentous cord insertion it appears that diagnosis *can* occur prior to birth, but that it is only definitively diagnosed when the placenta, cord and membranes can be physically examined following delivery. I received evidence that there are no guidelines in Australia for the performance of imaging or evaluation of the placental insertion site and that most experts do not recommend routine screening for velamentous insertion because it is costly in low risk patients, with no proven benefit, and likely to cause anxiety and unnecessary testing, whilst still potentially missing the diagnosis prior to birth. It also appears on the evidence however that diagnosis prior to birth increases the prospects of survival.

61. In terms of vasa previa, it appears that diagnosis prior to birth is based on the identification of membranous foetal vessels passing across the cervical os by real- time and colour Doppler ultrasound. Sonography also assists in diagnosis, as does magnetic resonance imaging (MRI). I received evidence that transvaginal ultrasound examination to look for membranous vessels proximate to the cervical os is considered reasonable in high risk patients. However the statement of Professor Oats also made clear that:

> "... not all vasa previa can be detected even by careful experienced operators using colour Doppler".

62. Despite the costs and resources involved, and the chances that even with such testing the condition may not be identified, Dr Kilburn gave evidence that the RDH (as a result of their own Internal Root Cause Analysis and review) have decided to institute a trial screening for vasa previa to assess the impact of this on patient care, access to ultrasound and patient safety.

63. In relation to the possibility of these conditions being able to be diagnosed prior to the birth of baby Kalotina, I received evidence that Mrs Galimitakis had an ultrasound at 20 weeks which demonstrated a low lying placenta. As outlined previously, I received evidence as to certain risk factors for both velamentous insertion and vasa previa. I note from the evidence of Dr

Kilburn that velamentous insertion of the cord is a prerequisite for vasa previa. One of the identified risk factors for vasa previa is a low lying placenta.

64. I note however that a further ultrasound was carried out at 36 weeks and that it was recorded as demonstrating an "improved position" for the placenta "well clear of the cervix". Professor Oats gave evidence that at 36 weeks the placenta was no longer low lying. It appears that following this second ultrasound there were no concerns identified as to the possibility of either velamentous insertion of the cord or vasa previa. It appears therefore that no further testing was done to assess the risk of either velamentous insertion or vasa previa.

65. Dr Oats, in his statement, referred to the "Obstetric Evidence Based Guidelines" of 2009, whereby it was noted:

> "... that women with low-lying placenta or marginal previa, velamentous cord insertion, succenturiate lobed or bilobed placenta, multiple gestations and IVF pregnancies should have a transvaginal ultrasound possibly using colour Doppler for evidence of vessels overlying or in close proximity to the internal os".

66. Professor Oats also noted however that:

> "... few major Obstetric Units have as yet instituted such recommendations and therefore RDH was not operating outside accepted practice".

67. Dr Helen Liley in her statement also referred to the Society of Obstetrics and Gynaecology – Canada ("SOGC") Guidelines for Management of Vasa Previa, which states:

> "... Vasa previa can be diagnosed antenatally, using combined abdominal and transvaginal ultrasound and colour flow mapping; however, many cases are not diagnosed and not making such a diagnosis is still acceptable".

68. Dr Liley went on to note that the guidelines recommend that if the placenta is found to be low lying on a second trimester examination, further evaluation for placental cord insertion should be performed. Dr Liley did state however:

> "I am not aware of similar Australian guidelines, but the above guidelines, which are based on a systematic review of evidence, emphasise that antenatal diagnosis of vasa previa (and its pre-requisite, velamentous cord insertion) in cases where the placenta is low-lying is likely to be key in preventing the very substantial foetal/neonatal morbidity and mortality in this condition".

69. In this regard, I note that the decision by the RDH to institute a trial screening for vasa previa appears to be in addition to current accepted practice for many Australian hospitals. I consider this therefore to be a positive step undertaken by the RDH.

70. As a result of the evidence before me I find that given that there was a low lying placenta discovered upon the ultra sound at 20 weeks, some further consideration perhaps should have been made as to the carrying out of further screening tests to determine the risk of this condition to baby Kalotina. I find however that at the time of this death such screening was not standard practice and do not consider therefore that failure to carry out such further testing contributed to baby Kalotina's death.

71. I note the trial implemented by the RDH concerning screening for vasa previa, and I have nothing further to say in relation to this issue.

<u>The communication flowing between the obstetric and paediatric teams</u>

72. Several of the witnesses who gave evidence before me raised concern in relation to the communication between the obstetric team led by Dr Wright and the paediatric team led by Dr Engelman. Particular concern was centred on the information provided to Dr Engelman by Dr Wright.

73. As previously outlined, the operating theatre at the time of the caesarean was set up so that Dr Wright's back was to the resuscitaire where Dr Engelman was working on the baby. Dr Wright gave evidence that following delivery of baby Kalotina, and as she was delivering the placenta she noticed that (tp.38):

> "...there was what we could call velamentous insertion which is where the cord inserts directly into the membranes of the placenta rather than the body of the placenta. There appeared to be (inaudible) tear and it almost appeared quite separated from the placenta. At this stage, Dr Engleman said to me, 'Where does the blood appear to be coming from?' I turned around and said, 'It doesn't look like an abruption. It's a velamentous cord insertion. It might be foetal'. It's also difficult when the mother's had a general anaesthetic because the baby can be more floppy and take longer to, you know, pick up and (inaudible) okay, they're normal. So I wondered whether that was a component. But that was my impression at the time, and that's what I let Dr Engleman know, and that's (inaudible)".

74. When asked what she recalled Dr Engelman saying, Dr Wright gave evidence that:

> "I can't recall a specific response, but I didn't recall him saying that he didn't hear me or if he asked me any further questions. I think I felt at that time that he understood what I had said, and that he was now focusing his efforts on assessing the baby and resuscitating the baby".

75. Dr Wright was cross examined by Mr Crawley on this point of her evidence and her recall of the words said (tp.43):

> "MR CRAWLEY: In fact, didn't he ask you, 'Is there significant blood loss?' Isn't that what he asked you?---He asked me where the blood was coming from because I – that's the (inaudible) answer then that I gave him was directed at that. I don't know if he asked me how much blood there was, but I certainly gave him the blood loss prior to delivery, and I assume – yes, I don't know. I remember him asking me where the blood was coming from, not how much blood loss".

And

> "MR CRAWLEY: Now you said in evidence that irrespective of whatever the question was that was asked, the answer you gave was, 'It doesn't appear to be an abruption. It's a velamentous insertion. It might be a foetal bleed'. Is that what you told us today?---Yes, that's correct.
>
> You previously provided a statement which is before the coroner. Do you have a copy of that in front of you?---Yes I do.
>
> At the bottom of the second page of that, you say:
>
> 'Dr Engleman asked me where the blood looked to have come from. I turned around and told him there was a velamentous insertion into the placenta and it appeared to be a foetal bleed.'
>
> Do you see that?---Yes.
>
> Now there's no reference there to it 'not appearing to be an abruption'. Which is the more accurate statement; what you told us today or what appears in the statement before the coroner?---I'm pretty sure that I said what I said today, but having – either way I had said what I thought the diagnosis was at the time, and I don't think that – I think that I remember saying, 'It doesn't look like an abruption. It doesn't look like the blood's coming from a placental abruption' and I definitely had said the comment about the velamentous insertion, and the possibility of a foetal bleed".

76. In relation to this exchange, Dr Engelman also gave evidence during the course of his examination in chief and stated as follows (tp.77):

> "MR CRAWLEY: Dr Engleman, if I can take you back to the operating theatre when Baby Kalotina was delivered and you were working on her with the assistance of Nurse O'Dwyer in the Resuscitaire. Did you have a conversation with the surgeon Dr Wright?---Yes.
>
> Did you ask Dr Wright a question?---Yes. I asked Dr Wright if she had noticed – if he was seeing a lot of bleeding. I think I said 'are you seeing a lot of blood, is there a lot of bleeding'.

And why did you ask that?---Because of my assessment that the baby appeared pale and I suctioned a significant amount of blood from the baby and I was attempting to gather any further information that might help with my assessment and further management.

Did you hear any response from Dr Wright?---Yes.

And what response did you hear?---I heard her repeat information that there'd been an antepartum haemorrhage for approximately 150 mils and then a further 250 mils, information that I'd received prior to commencing with the Caesarean section".

77. Given the manner in which the question was by Dr Engelman's counsel I asked the following questions of Dr Engelman:

"THE CORONER: Wait there. That question was phrased 'did you hear'?---Yes.

What was the conversation that you remember occurring?---The conversation was as I've said.

Okay, that's the conversation. You were there to hear things, weren't you, she was close to you having a conversation with you?---With respect, your Honour, it wasn't a conversation like you or I are having now.

Are you hard of hearing?---Not at all.

How far away from you was she?---Approximately three metres.

If she said in the same tone and same voice further words, you would have expected to have heard them, wouldn't you?---Absolutely.

You know that she says she said further don't you?---I'm aware of that".

78. Dr Wright gave further evidence that a "few weeks" following this death she spoke with Dr Engelman about what had happened. Dr Wright stated (tp.40):

"I think I had said, 'Did you – the baby clearly looked anaemic to me, did you not, you know?' He said, 'I heard you say that there was a velamentous insertion. I didn't hear you say it might be a foetal bleed, but I didn't understand – I didn't know what an velamentous

insertion was'. But he didn't give me any indication at the time in theatre that he didn't understand what that implication was".

79. This conversation was not part of Dr Wright's statement and was the subject of cross examination by counsel for Dr Engelman. Despite such cross examination, Dr Wright maintained her version of events and was very clear as to the purpose of the conversation and what was stated. I set out the relevant exchange (tp.44):

> "MR CRAWLEY: Now, you gave evidence that you had a further discussion with Dr Engleman about this some weeks after the events in question. Is that correct?---That's correct.
>
> And in fact you asked Dr Engleman, 'Didn't you hear me say it was a velamentous insertion and may be a foetal bleed?' You asked him that, didn't you?---I did, because I – it was the first time I had got to speak to him about what had happened, and I suppose I wanted to know what was happening from his side of things from the situation where I had thought that this baby looked anaemic and then things didn't happen the way I guess I would have thought that they may have. And I just wanted to know what he was thinking; whether he – you know, whether there was a miscommunication. And he said to me, 'I heard you say that there was a velamentous insertion, but I did not understand what that meant'.
>
> Let's just deal with the first part. You asked the question because you weren't – you had some question in your mind as to whether he had fully heard or understood you. Is that correct?---I didn't have a question in mind as to whether he heard or fully understood me, but I had questions about the resuscitation and I had questions about why things didn't happen that I would have thought would have happened if he comprehended the situation.
>
> In fact, Dr Engleman replied to you in that discussion some weeks afterwards that he hadn't heard you say anything about a velamentous insertion or foetal bleed, didn't he?---No, that's not what he said to me. That's not the discussion that I recall".

80. In terms of this subsequent conversation as follows (tp.83):

> "MS TRUMAN: When you say that – you said in your evidence earlier and these are my notes, so if I've not recorded you accurately, you let me know. But on 21 September 2011 you say that:
> 'Dr Wright and I met and during the course of that conversation she

made mention of velamentous insertion of the cord.' My note is that you said: 'That was a term I had not heard or been aware of until 21 September.' Is that a fairly accurate reflection of what you said earlier?---That's fairly accurate. I may have had some vague recollection of the term from many years ago in medical school but certainly no experience or never come across that term in my time of training in paediatrics.

THE CORONER: Well wait there. Sir, I don't want you to speculate for or against yourself. I had understood your evidence that you'd never heard that term before. So, what, now you're saying you may have heard it in medical school? Well what's the truth?---I was unfamiliar with the term or what it meant.

Thank you.

MS TRUMAN: Do you remember saying to Dr Wright that you didn't understand what that term meant?---I can't recall whether I said that or not.

Do you remember saying to Dr Wright that you did not hear her say the word – anything to do with a foetal bleed?---Are you asking me if I used the words foetal bleed?

Yes?---I can't recall the exact words that I used but I had a strong recollection that I made it – that I expressed that I did not hear any information from the obstetric team throughout the whole night, not even in theatre, that they were suspicious of a foetal cause of the bleeding".

81. I note that attempts were made by counsel for Dr Engelman to rely upon the fact that RN O'Dwyer did not hear any mention of the term "velamentous insertion" whilst in the theatre, however I note that at the time of giving such evidence RN O'Dwyer in fact stated she did not "know of" any conversation between Doctors Wright and Engelman, and clearly on both versions of events, there was a conversation. It is clear that just as RN O'Dwyer accepted in her evidence, she was concentrating on what was happening with the baby.

82. I found Dr Wright to be an honest and frank witness and reliable. Dr Engelman appeared to me to be not as reliable in terms of his memory of

relevant circumstances. Where there is a divergence in the evidence, I accept the evidence of Dr Wright over that of Dr Engelman and I therefore find that Dr Wright did tell Dr Engelman in theatre that there appeared to be a velamentous insertion, but that Dr Engelman did not understand what that term meant. I do however find that it appears Dr Engelman did not hear Dr Wright state that there may be a possible foetal bleed.

83. There is no doubt, based on the evidence before me, that there were occasions following the birth of baby Kalotina where the circumstances were such that it would have required significant concentration on the part of Dr Engelman in attempting to treat baby Kalotina. It appears that things were happening quickly and the condition of the baby was changing regularly. Dr Liley gave evidence that "task fixation" can occur in these kinds of situations and:

> "can easily lead to loss of awareness of environmental cues, to the extent that key verbal information, or other key observations, are never consciously received".

84. I accept the evidence of Dr Wright that she told Dr Engelman of a velamentous insertion having been discovered. As stated earlier I also find that Dr Engelman heard Dr Wright say this to him in the theatre, but did not understand what was meant by the term. I find that if such information had been understood by him, this may have changed the manner in which he treated baby Kalotina. I cannot however be certain that he heard Dr Wright say "possible fetal bleed" and find that this may have been as a result of task fixation.

85. As Dr Liley pointed out in her evidence, and as clearly occurred here, task fixation can impair decision making and subsequent care. There is therefore a significant need, particularly when situations are critical (such as they were in this case) that information is not just *provided*, but that it is also confirmed that it is *received*.

86. Within her report, Dr Liley recommended the institution of a program at the RDH which includes strategies for "closed loop" communication. Dr Liley gave evidence that closed loop communication refers to:

> "... an approach whereby whenever critical information is conveyed, the information is not assumed to be received until acknowledgement had been provided".

87. Within his evidence, Dr Kilburn stated that as a result of their review, the RDH had included closed loop communication technique into neonatal simulation training. I received a copy of that project plan and note that attendance is compulsory and ongoing.

88. In these circumstances, whilst I find it more likely than not that information was provided to Dr Engelman about the velamentous insertion of the cord, I also find that it more likely than not that such information was not received by Dr Engelman and that unfortunately this resulted in Dr Engelman being impaired in his decision making and subsequent treatment of baby Kalotina.

89. I also find however that the RDH has addressed this failure during the course of its own review, and I have nothing further to say on this issue.

<u>The failure to comply with protocols relating to the carrying out of caesarean procedures</u>

90. As noted previously the decision to transfer baby Kalotina to the special care nursery came after her heart rate and breathing had been established. It was at that time that Dr Engelman requested contact be made to advise the special care nursery of her transfer. It appears on the evidence of RN Elaine Wardrop (who was Team Leader of the special care nursery on this day) that prior to this time the special care nursery had not even been advised of the performance of a category A1 caesarean. RN Wardrop gave evidence that it was "normal procedure" in relation to an A1 caesarean that the birthing suites team leader would advise the special care nursery of such an emergency event.

91. There was some evidence given by Dr MacLennan that there was no categorisation known as "A1" caesarean back on 7 September 2011. I do not however accept this evidence and find that such a category did in fact exist and did require immediate attention. It was clearly a term well known and understood by both Dr Wright and RN O'Dwyer and I note that it was referred to as an "A1" caesarean within the contemporaneous hospital notes.

92. Dr Kilburn's statement set out that when a category A1 caesarean is called the following areas/staff are to be alerted:

> "... the team leader and floor anaesthetist in the operating theatre, the Obstetrician and Resident Medical Officer (RMO), the Paediatric Registrar and RMO and the special care nursery (SCN)".

Dr Kilburn noted that at the time of this death, the process of calling a Category A1 caesarean was:

> "... for either the Registrar or the Midwife Team Leader on advice of the Registrar, to contact the Operating Theatre. The Midwife Team Leader then calls a "Priority Page" for the Paediatric Registrar to attend the Operating Theatre via the triple star emergency response system".

93. It was acknowledged by Dr Kilburn that on this occasion the special care nursery was not contacted. This had also been the finding of the RDH following their review, and as a result the notification process had been "streamlined" through the creation of a "standard notification cascade" through the switchboard, with notification to be provided by the switchboard to the Obstetric Registrar, Obstetric Resident Medical Officer, Obstetric Consultant, Anaesthetic Registrar, Paediatric Registrar, Paediatric Consultant, Delivery Suite Team Leader and Registered Nurse – Special Care Nursery.

94. It is clear from the persons noted above as to whom contact is to be made that such communication is essential as it ensures that the appropriately qualified persons are aware of the procedure and can accommodate the

procedure accordingly. Given that this has been addressed by the RDH during the course of its own review, I have nothing further to say on this issue.

The failure to undertake various tests in accordance with usual procedure

95. Dr Wright gave evidence that after baby Kalotina was delivered, she passed the placenta to the scrub nurse and requested theatre staff take cord blood for testing. Unfortunately it appears that this did not occur at that time. It was stated by Dr Kilburn that there was a "note" on the operation record which stated there were insufficient staff in the theatre to attend to that request at the time. I heard evidence that such a test requires a member of staff to leave the theatre and go to the nearest blood gas analyser to carry out the test. I received evidence that in this case, the nearest blood gas analyser was located in the Intensive Care Unit ("ICU").

96. In terms of the importance of a blood gas test, Dr Liley stated that:

> "Had cord blood gases been available, it is likely they would have shown marked metabolic acidosis, and this might have helped alert the clinical team members to the severity of the baby's condition".

97. Likewise, Dr Kilburn stated that:

> "In this instance if a blood gas had been performed it may have influenced the emergency management plan for the neonate".

98. It is therefore clear that such testing was important and should have been carried out. In this regard, I note that Dr Liley recommended that the RDH consider protocols for earlier blood gas, blood sugar and blood pressure measurement in depressed infants. Dr Kilburn set out that one of the recommendations of the RDH Root Cause Analysis was that there be a guideline developed assigning delegation of responsibility for the collection of cord blood gas specimens and a training program for midwives and operating theatre staff for the safe and efficient collection of cord blood specimens.

99. Dr Kilburn's statement sets out that this guideline had now been developed and a copy was tendered as part of his report at exhibit 6. In these circumstances, I have nothing further to say on this issue.

The effect of the transfer of baby Kalotina during the course of treatment

100. As set out earlier, in order to attempt to perform an umbilical venous access with the insertion of an umbilical venous catheter, baby Kalotina was required to be transferred from the isolette in the special care nursery into the open care system. During this transfer, baby Kalotina deteriorated rapidly and a code blue was called at about 6.30pm. Due to this deterioration, a query was raised as to whether this distress to baby Kalotina may have been reduced if she had been in the open care system throughout and therefore whether it was appropriate for her to have placed her in the isolette in the first instance.

101. Before considering this specific issue, I note that in relation to the decision to attempt an emergency umbilical catheterisation, Dr Liley set out in her report that attempting this in the operating theatre rather than transferring baby Kalotina to the special care nursery "might have been lifesaving". However Dr Liley went on to note:

> "... I doubt that the majority of general paediatric trainees or even qualified neonatal paediatricians would have made this call in a baby who was breathing spontaneously, had a heart rate above 100 and had oxygen saturation levels over 90%. As indicated by the APGAR scores and in the statutory declarations of Dr Engelman and Ms Dwyer, the baby was thought to have had at least a partial response to initial resuscitation. Most would elect to transfer the baby to the special care nursery to perform the procedure under controlled circumstances, and with full monitoring. I believe many, if not most, general paediatric registrars would consider attempting peripheral venous cannulation first, especially if they did not have a large experience of umbilical catheterisation".

102. It appears therefore that whilst an earlier attempt in the theatre to perform an emergency umbilical catheterisation might have saved baby Kalotina's

life, it does not appear that this would have been an option undertaken by most paediatricians. I also note that Dr Engelman gave several cogent reasons as to why he did not wish to undertake such a procedure in the theatre.

103. In relation to the distress suffered by baby Kalotina when being transferred to the open care system in the special care nursery, I note that whilst not specifically finding that the decision to place baby Kalotina into the isolette was inappropriate, Dr Kilburn has set out within his statement that in order to ensure that the best possible decisions are made, the RDH had put in place a system of credentialing paediatric registrars for neonatal resuscitation at commencement at the RDH, with mandatory attendance at an annual refresher course. Dr Kilburn also noted there had been reassessment of the skill mix and utilisation of a float nurse in the special care nursery to ensure mandatory competence in neonatal resuscitation procedures.

104. I received into evidence a copy of the guidelines now in place concerning the role of a float nurse in the special care nursery and also details of the neonatal resuscitation training being undertaken, together with the plans for a simulation program to strengthen the neonatal resuscitation and paediatric skills. In these circumstances, I have nothing further to say on this issue.

Concerns of the parents

105. At the commencement of this inquest, counsel assisting advised me that the parents had 3 general concerns in relation to their daughter's death:

105.1 Whether Dr Engelman, as a paediatric registrar, was appropriately qualified to carry out this kind of procedure;

105.2 Why they were not advised as to the danger their daughter was in at a much earlier stage; and

105.3 Whether the delay in seeking the assistance of a consultant was reasonable in the circumstances.

106. I will deal with these matters together. I received a copy of Dr Engelman's qualifications held as at the date of this death. I also heard evidence that Dr Engelman had completed his advance paediatric trainee examination in 2010 and that it was usual that upon completion of that exam, the medical officer would then progress to consultant level within three years. Dr Engelman was, at the time of this death, a second year advanced trainee that had passed his exam.

107. Within her review, Dr Liley also considered carefully the question of Dr Engelman's qualifications and noted that he was in his fifth year of paediatric training. Dr Liley noted:

> "For completion of general paediatric advanced training, the Royal Australasian College of Physicians requires six months of training in acute care paediatrics, which can include one or more of neonatal intensive care, paediatric intensive care, emergency medicine, or neonatal and paediatric retrievals. It is not uncommon for general paediatric registrars, by their fifth year of training, to have done only a few months of neonatal intensive care. Given the rarity of severe foetal haemorrhage, it would be unusual for a doctor at his level of paediatric training to have encountered a similar case before. It would not be surprising if he had undertaken umbilical catheterisation fewer than half a dozen times before".

108. Dr Engelman gave evidence that as at the date of this death he had not attended at any cases of severe foetal haemorrhage and had performed approximately 15 umbilical venous catheters, but on babies who had been stabilised in a neonatal intensive care unit and already ventilated whilst under the supervision of a neonatologist paediatrician. That is a very different situation to the one that he was presented with in this case.

109. In addition to this evidence, I also received a copy of some notes that were taken during the course of a meeting held on 22 September 2011 between Dr Paul Bauert (Head of Paediatrics), Dr Peta Wright, Dr Sujatha Thomas

(Acting Head of Obstetrics and Gynaecology) and Mr and Mrs Galimitakis. Importantly and relevantly these notes record comments made by Dr Bauert to the family when asked "what happened". Dr Bauert is recorded as stating that:

> "... he felt that the department was finding that some advanced trainees may not be getting appropriate experience to deal with some critical situations and he felt this was a college/departmental issue".

Further, that:

> "... there was an error in clinical judgement that night on the part of the paeds reg (sic) that has unfortunately resulted in tragic consequences and that the reg (sic) involved is obviously devastated and working through these issues".

Finally, that:

> "... if a consultant was called earlier and or an umbilical catheter was inserted in theatre the outcome may have been different".

110. Given the rarity of the condition of baby Kalotina, I do not find that Dr Engelman's qualifications were relevant in terms of whether they contributed to her death. It appears that even if Dr Engelman were a fully qualified paediatrician, it would have made little difference to his experience of such conditions.

111. I also consider it extremely unfortunate that the parents were not advised earlier as to the danger their daughter was in, however it appears that such danger was not fully realised until it was far too late. By that time, Dr Freeman arrived and the parents were informed.

112. In terms of the time it took to seek the assistance of a consultant, I note that the evidence indicates that Dr Engelman called for assistance from Dr Freeman at about 6.14pm. This was approximately one hour after baby Kalotina's birth. As she was not the on call consultant, Dr Freeman appropriately advised Dr Engelman to call Dr MacLennan. This appears to

have occurred immediately thereafter with the call being received by Dr MacLennan at about 6.20pm. It appears that Dr MacLennan does not arrive until approximately 6.45pm, almost one and a half hours after baby Kalotina was born.

113. I can well understand the concern of the family in the length of time it took to call a consultant. It does appear to have taken some time, even taken account of Dr Engelman's evidence that "there were a number of things going on" and that he was doing his best to "get the line in at that time".

114. It appears from the statement of Dr Kilburn however that one of the changes introduced is that now immediately upon the calling of an "A1" caesarean, the Paediatric Consultant will be one of the persons called to respond immediately. In these circumstances, I have nothing further to say on this issue.

Decision

115. This was, in every sense, a tragic set of circumstances that befell upon Mr and Mrs Galimitakis on a day that should have been one of the happiest, i.e. the day of the birth of their first child. It appears that unknown to everyone, baby Kalotina was in significant danger of haemorrhage because of the abnormal formation that had taken place in relation to her umbilical cord. Upon the evidence, because of this condition (velamentous cord insertion) baby Kalotina was at risk throughout the pregnancy of haemorrhage and death.

116. Likewise however, it appears that even if additional testing had taken place, this condition may not have been discovered and the same risks and dangers to baby Kalotina would still have arisen. Whilst I accept the evidence of Dr Wright that she advised Dr Engelman of the existence of a velamentous cord insertion, I also accept his evidence that he did not understand what this term meant and did not hear the words of the possibility of a foetal bleed

which would have left no doubt as to the bleeding being associated with the baby.

117. It is tragic that this term was not understood by Dr Engelman; however it appears on the evidence of Professor Oats that his lack of understanding the term was not surprising as it is a rare condition. Because of the rarity of the condition, and the extremely dire circumstances of baby Kalotina even by the time of her delivery, I am not able to find whether Dr Engelman understanding this condition would have made any difference to the outcome for baby Kalotina, particularly given Dr Liley's findings as to the amount of blood likely to have already been lost even prior to her birth.

118. I am also satisfied however that since baby Kalotina's passing; the RDH has taken a proactive approach in investigating the circumstances surrounding her death in a detailed and timely manner. They have made numerous changes to their systems, training and protocols. These changes appear to address all of the matters raised for consideration within the expert reviews undertaken by Professor Oats and Dr Liley who are both independent of the RDH.

119. It is for these reasons that I do not consider it necessary for there to be any recommendations arising from this inquest.

Dated this 27th day of August 2012.

GREG CAVANAGH
TERRITORY CORONER