

CITATION: *Inquest into the death of Kerisha Slim* [2011] NTMC 045

TITLE OF COURT: Coroners Court

JURISDICTION: Katherine

FILE NO(s): D0070/2009

DELIVERED ON: 14 October 2011

DELIVERED AT: Darwin

HEARING DATE(s): 27, 28 April 2011

FINDING OF: Mr Greg Cavanagh SM

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REPRESENTATION:

Counsel Assisting: Ms Elisabeth Armitage

The next of kin: Ms Phillipa Martin

Department of Health

And Families: Ms Jodi Truman

Judgment category classification: B

Judgement ID number: [2011] NTMC 045

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IN THE CORONERS COURT
AT DARWIN IN THE NORTHERN
TERRITORY OF AUSTRALIA

No. D0070/2009

In the matter of an Inquest into the death of
Kerisha Slim

**ON 8 MAY 2009
AT DARWIN**

FINDINGS

Mr Greg Cavanagh SM:

Introduction

1. Kerisha Slim (“the young girl”) was an eight year old Aboriginal girl from Yarralin community. She died on 8 May 2009 at Royal Darwin Hospital. She died in severe heart failure as a consequence of chronic Myocarditis, subsequent to treatment for a facial tumour.
2. Shortly before she died the young girl was released from the Adelaide Women’s and Children’s Hospital for a short period of respite. On the journey home to Yarralin with her mother, she became ill.
3. She was taken to Katherine District Hospital. Medical staff recognised she was critically ill and liaised appropriately with specialists at Royal Darwin Hospital. Although ultimately incorrect, their working diagnosis of sepsis or septic shock was appropriate given the information available to them and their observations of the child.
4. When the young girl failed to improve with treatment, timely decisions were made for her transfer to Royal Darwin Hospital. There was some delay associated in arranging the practicalities of the transfer but the evidence did not indicate that this affected her prognosis.

5. I find that all times the medical care provided was appropriate and professional. Ultimately however, the medical care was unable to save this gravely ill young girl and she died from natural causes.
6. In the inquest Ms Elisabeth Armitage appeared as Counsel Assisting. Ms Jodi Truman appeared for the Department of Health and Families. Ms Phillipa Martin appeared for the young girl's next of kin. The death was investigated by Senior Constable Samantha McNeill of the Coronial Investigation Unit. I received into evidence her report, brief of evidence, and the young girl's extensive medical records. I also received a report from Dr Didier Palmer, and statements from the young girl's family, Ms Ronda Dashwood and Ms Mary Watson. I heard evidence from Dr Terence Sinton, Dr Mayda Akhtar, Dr Steven Asher, Dr John Condon, Dr Didier Palmer, Dr Jeremy Raftos, Mr Keith Burggraaff, and Dr Thomas Revesz.
7. Pursuant to section 34 of the *Coroners 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) the particulars needed to register the death under the Births, Deaths and Marriages Registration Act;

8. Section 34(2) of the Act operates to extend my function as follows:

“A coroner may comment on a matter, including public health or safety or the administration of justice, connected with the death or disaster being investigated.”

9. Additionally, I may make recommendations pursuant to section 35(1), (2) & (3):

“(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.”

Relevant circumstances surrounding the death

Background

10. The young girl was the second child of Ms Rhonda Dashwood and Mr David Slim. Her brothers and sisters are Amiesha, Kendrick, Shayanne, David and baby Jaceyline.
11. The young girl was born at Katherine Hospital on 4 August 2000. She was a healthy baby. She lived in Yarralin with her family. She attended the clinic for her baby check-ups and weighing. Unfortunately, at the age of four years the young girl was diagnosed with a very rare form of cancer, Sialoblastoma, which is a cancer of the salivary gland and neck.
12. Thereafter followed 18 months of treatment at Adelaide Women's and Children's Hospital and at Royal Darwin Hospital. The young girl was supported by her parents and extended family during her hospitalisation. She underwent two courses of chemotherapy and surgery. By 30 June 2006 her health had improved to the point that she was able to be discharged back into the community. She returned to Yarralin, remained well and attended school.

13. However, in August 2008, the Sialoblastoma returned. An MRI was requested by the Yarralin clinic and it was conducted on 22 September 2008 at Royal Darwin Hospital. The results of the MRI confirmed the return of the tumour. They were received in Yarralin on 13 October 2008.
14. Immediate plans were made for the young girl to return to Royal Darwin Hospital and then to the Adelaide Women's and Children's Hospital. She was re-admitted to Adelaide Women's and Children's Hospital in October 2008. A CT scan conducted on her re-admission showed metastases in each lung.
15. Given the good responses to chemotherapy achieved in 2005/06 her treating doctors decided to administer a further course of chemotherapy over three cycles.
16. The chemotherapy included the drug Epirubicin, which is mildly cardiotoxic. The young girl's course of chemotherapy did not exceed the recommended dose of Epirubicin for her age or weight although it is known that patients' tolerance to the drug can vary. Accordingly, as a matter of precaution and management the young girl's cardiac function was monitored by echocardiograms.
17. Echocardiograms on 28 October 2007 and 16 December 2007 were normal. On 9 February 2009, after the first cycle of chemotherapy, an echocardiogram revealed a minor loss of cardiac functioning. This did not overly concern the treating doctors and the two remaining cycles of chemotherapy were administered.
18. The chemotherapy was again effective in reducing the size of the tumour to the point that on 21 April 2009 it was surgically removed. The young girl appeared to recover well from the surgery.
19. As she had been hospitalised for about seven months, respite from the hospital environment was considered appropriate.

20. On 7 May 2009 the young girl left Adelaide in the care of her mother, Ms Dashwood. They flew to Darwin and stayed one night at the Christian Outreach Centre. The young girl appeared reasonably well.
21. On 8 May 2009, they travelled by bus to Katherine. Ms Dashwood noticed that her daughter was becoming unwell. The young girl was not eating which made it difficult for her to take her medication. However, as she was still drinking Ms Dashwood was not seriously concerned.
22. On arrival in Katherine, the young girl was very happy to see her father and go to her Aunt's house. She said that she was hungry but then refused to eat and instead wanted to sleep. She woke at about 5 pm and vomited. Ms Dashwood was concerned about her daughter and called an ambulance. The ambulance attended promptly and Ms Dashwood and the young girl arrived at Katherine Hospital at 5.45 pm.
23. The young girl was triaged at Katherine Hospital by the nursing staff as a category 4, a classification which meant she was to be seen by a doctor within 60 minutes.
24. At 6.53 pm the young girl was seen by Dr Mayda Akhtar. Her chest examination sounded clear. Dr Akhtar listened to the young girl's heart and noted a regular rhythm. There was no galloping heart rhythm to indicate possible heart failure. According to Dr Akhtar there was no apparent need for a chest x-ray, which in any event might have proved impossible to perform due to the young girl's level of non-compliance.
25. Dr Akhtar attempted to examine the young girl's abdomen to determine whether her liver was enlarged. However, as the young girl remained distressed and uncooperative a thorough abdominal examination was not possible. Dr Akhtar noted some epigastric tenderness.
26. Dr Akhtar made a provisional diagnosis of vomiting post chemotherapy and administered IV fluids.

27. At 8 pm Dr Akhtar contacted Royal Darwin Hospital and spoke to the consultant emergency doctor, Dr Steven Asher. In consultation, Dr Asher made a working diagnosis of infection following immunosuppression from chemotherapy. Fluids and antibiotics were administered. Thereafter, Dr Akhtar and Dr Asher maintained regular phone contact.
28. At about 8.40 pm Dr Akhtar attempted to contact the District Medical Officer (“DMO”), Dr John Condon. Dr Condon returned the call at 8.50 pm. He was informed of the possible transfer to Royal Darwin Hospital. In consultation it was considered appropriate to monitor the young girl’s response to the current treatment to see if there was an improvement.
29. At 9.30 pm Dr Asher discussed the case with a paediatrician at Royal Darwin Hospital and Timentin (a further antibiotic) was added to her treatment regime.
30. By 10.00 pm Dr Asher decided that there had been inadequate response to the treatment. The working diagnosis was then septic shock. Dr Asher decided to transfer the young girl to Royal Darwin Hospital. Calls were made to the DMO so that the transfer could be arranged.
31. Potential wallaby strikes at Tindall Airbase prevented the use of fixed wing aircraft after dark. Accordingly, the evacuation was to be by helicopter.
32. The DMO located a medically equipped search and rescue helicopter at Mount Bundy, supporting a military exercise. It took 90 minutes to secure the necessary approvals and authorisations for use of the helicopter which was not directly contracted for medical evacuations. At 11.35 pm the helicopter was secured for the retrieval.
33. At about midnight the helicopter left Mount Bundy for Darwin. It arrived at 12.38 am on 9 May 2009. It was equipped for the medical retrieval, appropriate medical staff boarded the flight, it was refuelled, and left for Katherine District Hospital at 1.20 am.

34. At 2.57 am the helicopter arrived at Katherine and was refuelled at Tindall Airbase. The helicopter left Katherine at 5.02 am with the young girl and arrived at Darwin Airport at 6.16 am. The young girl was then transferred by ambulance to Royal Darwin Hospital, arriving at 6.43 am.
35. Unfortunately, very shortly after arrival at Royal Darwin Hospital, the young girl rapidly deteriorated. Resuscitation was commenced. There was no response to resuscitation and the young girl was declared dead at about 7.40 am.

The autopsy

36. Dr Terence Sinton, Forensic Pathologist, conducted an autopsy on 11 May 2009 and I received his report dated 31 July 2009.
37. Dr Sinton's significant findings on autopsy included:
 - (i) Large volumes of fluid in the chest cavity causing the collapse of both lungs,
 - (ii) An abnormal collection of fluid in the pericardial sac surrounding the heart, likely to have produced some degree of acute-on-chronic heart dysfunction (cardiac tamponade),
 - (iii) Superficial (petechial) haemorrhage to the surface of the heart, possibly from cardiopulmonary resuscitation (CPR),
 - (iv) Abnormal fluid accumulation in the abdominal cavity (ascites),
 - (v) Marked congestion of the liver, indicative of early liver failure,
 - (vi) Evident acute swelling of the brain (cerebral oedema), and
 - (vii) Microscopically, evidence of chronic inflammatory damage to the heart (chronic Myocarditis).

38. Dr Sinton considered that the large abnormal collections of fluid were consistent with the young girl having suffered progressive and very severe heart failure. The accumulated fluid led in turn to further damage to the brain, liver and kidneys, and finally death.
39. Dr Sinton noted that Myocarditis is commonly caused by a viral infection to the heart muscle. It was Dr Sinton's opinion that the young girl might well have suffered such a viral infection as a complication of her recent chemotherapy.
40. Taking into account the findings at autopsy and the history of the young girl, Dr Sinton was of the opinion that the young girl died in severe heart failure as a consequence of chronic Myocarditis, subsequent to chemotherapy for Sialoblastoma.
41. I agree with Dr Sinton's opinion.

Issues arising during the inquest

Did delays associated with the MRI affect the young girl's prognosis?

42. As noted above [13], in 2008 the re-emergence of the Sialoblastoma was confirmed by MRI. There was a delay in securing an MRI appointment and a 3 week delay between Royal Darwin Hospital obtaining and forwarding the MRI results to the Yarralin clinic. I am told the results were only sent when the clinic chased them up.
43. I heard evidence from the Clinical Manager of Yarralin Health Centre, Mr Burggraaff. He told me of the frustrations and delays experienced by medical staff at remote clinics when dealing with hospitals and specialist services. Appointments are not promptly made, when made they are not promptly communicated to the clinic, paper work is lost and results have to be chased.

44. Attempts by the Department of Health in 2010 to improve communications with enhanced electronic systems (SEMS) have failed to assist clinics such as Yarralin who are not connected to the electronic network.
45. As to the delays associated with the MRI, I heard evidence from Dr Revesz, the young girl's treating Paediatrician Oncologist and Head of the Oncology Department at Adelaide Women's and Children's Hospital. He told me the young girl's cancer, whilst aggressive, was slow growing. It was his opinion that something in the order of some weeks delay did not affect her treatment or prognosis. I accept Dr Revesz's evidence on this issue.
46. However, I note that this is not the first time I have heard of the frustrations experienced by remote clinics concerning communications with hospitals and specialists. Similar concerns were raised last year in the inquest of Kristelle Ruby Mulladad [2010] NTMC 64. It is to be hoped that these concerns do not fall on deaf ears and that consultation between the Department of Health and remote clinics will continue to occur in an effort to improve the speed and reliability of communications with these primary health providers.

Did the chemotherapy cause the Myocarditis?

47. On behalf of the young girl's family it was submitted that the young girl's chronic Myocarditis was likely to have been caused by the cardio-toxic drugs administered during chemotherapy.
48. Dr Sinton gave evidence on this issue and he told me:

“I do have quite some experience of myocarditis having seen a reasonable number of cases over the years, and the pattern of disease seen under a microscope was absolutely characteristic of that seen with viral infections. And so it's my assumption, based on that information, that it was more likely than not a viral infection that produced this damage”.(emphasis added)

49. Dr Raftos, the Director of the Emergency Department of Adelaide Women's and Children's Hospital, also gave evidence on this issue. Although he thought chemotherapy alone might have been sufficient to cause the Myocarditis he also told me:

“Something happened to the young girl in that trip back on the bus...which precipitated her sudden deterioration. And an additional viral infection on top of an already inflamed heart was a possibility”y.

50. Dr Revesz, the young girls Paediatrician Oncologist was questioned on the issue and gave the following evidence:

“Q. We've had a couple of differing opinions. Dr Sinton thought that an infection was the likely cause of the myocarditis in combination with the effects of chemotherapy. Dr Raftos thought that the chemotherapy itself may have been sufficient to cause the inflammation to the heart. What is your opinion as to the most likely cause of the chronic myocarditis seen by Dr Sinton?

A. Again when I think about the typical cardiotoxicity that happens a long time after chemotherapy is given, to my mind it was most likely that it was a combination of factors. And the most plausible, that it was a combination of chemotherapeutic damage and, for example, a viral infection”.

51. Whilst it is possible that the Myocarditis was caused by the chemotherapy drugs alone I find it more likely that the young girl's chronic heart condition resulted from a viral infection on a heart and immune system weakened by chemotherapy.

Was the family informed of the echocardiogram results?

52. It was submitted on behalf of the young girl's family that the existence of heart damage identified in the MRI scan of 9 February 2008 ought to have been explained to them. In her statement Ms Dashwood said that she did not know that the young girl's echocardiogram results were abnormal.

53. In evidence Dr Revesz frankly told me:

“One of the deficiencies that we’ve identified as a consequence of the mortality review is that we don't have a perfect system or a very satisfactory system ... for the echocardiograms to find their way into the case notes ... if it wasn't there in the case notes ... it wouldn't have prompted me or one of my colleagues ... to discuss it with mother”.

He also frankly told me:

“We’ve always had a meeting with parents at the beginning and also at recurrence. That involves one of the nurses...the social worker and a consultant. Now, admittedly, we are not very good at documenting it and this is something that has started to happen since last year. ... It would be good and they are making efforts now to do that a lot more. But we do discuss it, there’s absolutely no question about it”.

54. On the evidence it appears possible that the echocardiogram results were not discussed with the family. Certainly no discussions were documented. However, it must be remembered the damage identified was minor. The young girl’s treating doctors were satisfied the chemotherapy should continue and, later, that the young girl was well enough for respite. The acute worsening of her condition was entirely unexpected. In the circumstances I consider that any discussions would not have alerted the family to the risk of heart failure or affected the decisions that were made.
55. However, when something goes wrong it will often be important to accurately know what was discussed with patients and their families when decisions about care and treatment are being made. Accordingly, I support the efforts of the Oncology Department towards improving their documentation in this regard.

Should there have been a further echocardiogram before respite?

56. The results of the 9 February 2009 echocardiogram were documented as “a normal L ventricular size with borderline ventricular function (fractional shortening: 24%). The septum and anterospetal region appeared mildly hypokinetic. Otherwise normal cardiac function”.

57. Dr Sinton considered that such a finding indicated early, mild damage to the heart. Dr Sinton was of the opinion that if another echocardiogram had been conducted in April or May further deterioration of heart function might have been detected.
58. Dr Revesz considered the 9 February 2009 results amounted to a *borderline alteration* and told me that the young girl's heart function was *still within the accepted norm*.
59. After her chemotherapy and surgery, the young girl looked well and there were no clinical observations indicative of any further heart deterioration. There was nothing about her observations which might have prompted a further echocardiogram.
60. Whilst it is possible a further echocardiogram might have detected additional heart damage, the fact that there was not a further echocardiogram does not, in my view, indicate any want or failing in the young girl's care. In this regard I give weight to the following comments of Dr Revesz:

“The difficulty is that this is an extremely rare situation. The cardiotoxicity that we normally see happens much much later. The typical situation would be someone like this young girl (exposed to) potentially cardiotoxic agents, would lead a perfectly normal life and ... have acute heart failure in later life ... It's very very difficult to predict who are the people who are going to develop those problems and who are the ones that despite a marginal shortening of their .. ventricular function, they actually go through life without any issue. And that's why it's sometimes difficult to know what we do to cover our butts, to be crude”.

61. All adverse outcomes result in a mortality review by the Oncology Department at the Adelaide Women's and Children's Hospital. In this case the review recommended that:

“All patients currently receiving potentially cardiotoxic chemotherapy regularly undergo cardiac evaluation at the start of treatment and at regular intervals during and after chemotherapy. Ongoing research in supportive care may bring new insights into cardiotoxicity which in turn could lead to better, more selective chemotherapeutic agents and / or better protection from these effects”.

62. I support those recommendations.

Was the working diagnosis and treatment at Katherine District Hospital appropriate?

63. Dr Akhtar made an initial provisional diagnosis of vomiting post chemotherapy. Whilst ultimately incorrect, the provisional diagnosis was reasonable, given the patient history and observations that Dr Akhtar was able to obtain.

64. The provisional diagnosis changed to one of infection following consultation with Dr Asher at 8 pm. Later when her condition did not improve the diagnosis progressed to septic shock. Whilst the diagnoses were ultimately incorrect, given the information available to the doctors Dr Raftos (a senior doctor in charge of the Emergency Department at Adelaide Women’s and Children’s Hospital) was of the opinion, which I accept, that the diagnosis of septic shock was:

“...a very reasonable diagnosis. In fact the most likely diagnosis that someone would come to in a child receiving chemotherapy who was unwell. And they followed the care plan and appropriate steps that one would do to septic shock, which was antibiotics, which a range of antibiotics were given that I think are appropriate. Fluid for dealing with what appeared to be shock and was indeed shock”.

Was the young girl correctly triaged?

65. Triage categories are determined in accordance with the Australian Triage Scale. There are five levels of acuity:

- Category 1: Immediately life-threatening
- Category 2: Imminently life-threatening

- Category 3: Potentially life-threatening or important time-critical treatment or severe pain
 - Category 4: Potentially life serious or situational urgency or significant complexity
 - Category 5: Less urgent
66. Dr Palmer, Director Top End Retrieval Service, told me the young girl ought to have been initially triaged as a category 3 and not as a category 4. A correct categorisation would have called for the young girl to be seen by a doctor within 30 minutes as opposed to within 60 minutes for a category 4. He also said that a delay of 30 minutes in all the circumstances of this case was not significant and did not affect the care, treatment or prognosis of the young girl.
67. Dr Raftos gave similar evidence to Dr Palmer on this point.
68. While a triage category of 3 was warranted upon admission to Katherine District Hospital, I find that the category 4 that was given did not affect the outcome for the young girl.

Was there undue delay in the young girl's evacuation?

69. There were no night-time, fixed wing, flights out of Tindall Airbase because of a real threat of collision with wallabies on the runway. Transfer by ambulance was not an option as there was insufficient medical staff at Katherine to provide appropriate medical support in an ambulance. The only possibility for night time evacuation was by helicopter.
70. As at 8 May 2009 there was no formal system of air transfer by helicopter in place. The system was under review and in the meantime the process was described to me as *ad hoc*. The evidence demonstrates that on the night of the young girl's transfer approximately two and a half hours additional delay can be attributed to the *ad hoc* nature of the arrangements.

71. However, Dr Palmer told me the *ad hoc* arrangements had been replaced with *interim* arrangements resulting in a reduction in ‘readiness-for-departure’ times. Under the *interim* arrangements helicopters are usually ready to depart in about thirty minutes. As at the date of inquest, the *interim* arrangements included the availability of a specified fully medically configured helicopter.
72. I was further informed that tendering for a fully integrated service, to be run by the Top End Retrieval Service, was underway. Once implemented the service was designed to result in faster transfers. Details of the integrated service were contained within Dr Palmer’s tendered report.
73. Of course in any service, physical assets such as helicopters, and human assets such as trained medical staff, are finite. If dedicated helicopters or aircraft are already in use, they might be unavailable or delayed if required to attend later emergencies. The best service will not always ensure an immediate response. But I am assured by Dr Palmer that the new service is *far, far more likely to be mission capable at any point in time.*
74. In the circumstances of this case, I find there was additional delay in the young girl’s retrieval because of the *ad hoc* arrangements that were operating.
75. However, on all the evidence before me I find that this young girl was gravely ill. She had recurrent cancer and secondary tumours. She was suffering from an undetected chronic and severe heart condition which was very difficult to diagnose. Neither Dr Palmer nor Dr Raftos were of the view that a delay of two hours was significant in respect of the young girl’s prognosis. Accordingly, I am unable to find that the delay in her retrieval contributed to her death.
76. As at the time of the inquest, the retrieval service was under complete overhaul in preparation for a fully integrated service. Even the *ad hoc*

service in operation as at 8 May 2008 had been replaced by the improved *interim* arrangements. Any comments I might have made about the *ad hoc* service would now be otiose, and therefore I make no comment or recommendation about them.

Findings

77. The young girl died in Royal Darwin Hospital on 9 May 2008 from chronic Myocarditis subsequent to chemotherapy for Sialoblastoma. She died of natural causes.
78. Although her condition was not correctly identified at Katherine District Hospital, the treating doctors working diagnoses were suitable to the presenting symptoms and available information. Thereafter, her care was appropriate and decisions were made with proper levels of consultation and within acceptable time frames.
79. Although there were some delays throughout her treatment and in particular in her evacuation to Royal Darwin Hospital, I am unable on all the evidence to find that these contributed to her death.
80. I make no recommendations arising from this inquest.

Formal Findings

81. Pursuant to section 34 of the *Coroner's Act* ("the Act"), I find, as a result of evidence adduced at the public inquest, as follows:
 - (i) The identity of the Deceased person was Kerisha Slim born on 4 August 2000 at Katherine. The Deceased resided at Yarralin, in the Northern Territory of Australia.
 - (ii) The time and place of death was 7.40 am on 9 May 2009 at Darwin.

- (iii) The cause of death was chronic Myocarditis subsequent to chemotherapy for Sialoblastoma. .
- (iv) Particulars required to register the death:
1. The Deceased was Kerish Slim.
 2. The Deceased was of Aboriginal descent.
 3. The Deceased a school student.
 4. The cause of death was reported to the coroner.
 5. The cause of death was confirmed by post mortem examination carried out by Dr Sinton.
 6. The Deceased's parents are Ms Rhonda Dashwood and Mr David Slim.

Dated this 14th day of October 2011.

GREG CAVANAGH
TERRITORY CORONER