IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: **COR 2014 4717**

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 60(2)
Section 67 of the Coroners Act 2008

Findings of:	**MR JOHN OLLE, CORONER**
Deceased:	**BABY AHMED**
Date of birth:	**OCTOBER 2013**
Date of death:	**SEPTEMBER 2014**
Cause of death:	**UROSEPSIS AND RENAL FAILURE IN A CHILD WITH ACUTE ON CHRONIC PYELONEPHRITIS SECONDARY TO HYDRONEPHROSIS AND POSTERIOR URETHRAL VALVES**
Place of death:	**HOPPERS CROSSING, VICTORIA 3029**

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HIS HONOUR:

BACKGROUND

1. Baby Ahmed was born in October 2013. He was 11 months old at the time of his death. He was the second child of his parents.

2. Baby Ahmed's mother had her antenatal care with her General Practitioner, Dr Noah Diner, and at the Royal Women's Hospital (RWH). Other than prominent left lower limb swelling that was investigated for deep vein thrombosis, there were no significant issues in the antenatal period.

3. Baby Ahmed was born in October 2013 at the RWH and was a term delivery (39 weeks gestation). His birth weight was 3544 grams. The perinatal period was complicated by feeding difficulties, weight loss, mild jaundice and hypernatraemia[1]. On the second day of his life he was noted to have lost approximately 13 percent of his birthweight and blood investigation was undertaken. The loss of weight was investigated and reviewed by paediatric registrar, Dr Chai. The examination was normal and Baby Ahmed was passing urine. It was found that his clinical findings were due to poor feeding in the context of poor maternal breast milk supply. He was continued on breast feeds and given formula top-up feeds. Another blood test was undertaken and Baby Ahmed was reviewed by other members of the paediatric team. Baby Ahmed's feeding improved, as did his mother's breast milk supply, and his weight increased. He was discharged from the RWH four days after his birth, and planned for domiciliary midwife (DOM) follow up. There is no documentation of DOM follow-up in the notes provided. No further blood tests were conducted.

4. Review of Baby Ahmed's medical records from Dr Diner reveal that he was immunised, had no allergies, and had multiple presentations with mild eczema, for which he was prescribed topical hydrocortisone cream. His growth and development were reported as being normal. No other significant medical issues were noted.

[1] Hypernatraemia means a high sodium level.

THE PURPOSE OF A CORONIAL INVESTIGATION

5. Baby Ahmed's death constituted a '*reportable death*' under the *Coroners Act 2008* (Vic), as his death occurred in Victoria and was both unexpected and unnatural.[2]

6. The jurisdiction of the Coroners Court of Victoria is inquisitorial[3]. The purpose of a coronial investigation is independently to investigate a reportable death to ascertain, if possible, the identity of the deceased person, the cause of death and the circumstances in which death occurred.

7. It is not the role of the coroner to lay or apportion blame, but to establish the facts.[4] It is not the coroner's role to determine criminal or civil liability arising from the death under investigation, or to determine disciplinary matters.

8. The "cause of death" refers to the medical cause of death, incorporating where possible, the mode or mechanism of death.

9. For coronial purposes, the circumstances in which death occurred refers to the context or background and surrounding circumstances of the death. Rather than being a consideration of all circumstances which might form part of a narrative culminating in the death, it is confined to those circumstances which are sufficiently proximate and causally relevant to the death.

10. The broader purpose of coronial investigations is to contribute to a reduction in the number of preventable deaths, both through the observations made in the investigation findings and by the making of recommendations by coroners. This is generally referred to as the 'prevention' role.

11. Coroners are also empowered:

    (a) to report to the Attorney-General on a death;

    (b) to comment on any matter connected with the death they have investigated, including matters of public health or safety and the administration of justice; and

    (c) to make recommendations to any Minister or public statutory authority on any matter connected with the death, including public health or safety or the administration of

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[2] Section 4, definition of 'Reportable death', *Coroners Act 2008*.
[3] Section 89(4) *Coroners Act 2008*.
[4] *Keown v Khan* (1999) 1 VR 69.

justice. These powers are the vehicles by which the prevention role may be advanced.

12. All coronial findings must be made based on proof of relevant facts on the balance of probabilities. In determining these matters, I am guided by the principles enunciated in *Briginshaw* v *Briginshaw*.[5] The effect of this and similar authorities is that coroners should not make adverse findings against, or comments about individuals, unless the evidence provides a comfortable level of satisfaction that they caused or contributed to the death.

MATTERS IN WHICH THE CORONER MUST, IF POSSIBLE, MAKE A FINDING

Identity of the Deceased pursuant to section 67(1)(a) of the *Coroners Act 2008*

13. Baby Ahmed was visually identified by his father on 14 September 2014. Identity was not in issue and required no further investigation.

Medical cause of death pursuant to section 67(1)(b) of the *Coroners Act 2008*

14. On 16 September 2014, Dr Sarah Parsons, Forensic Pathologist at the Victorian Institute of Forensic Medicine (VIFM), conducted an examination on Baby Ahmed's body and provided a written report dated 19 November 2014, concluding a reasonable cause of death to be "I(a) Urosepsis and renal failure in a child with acute on chronic pyelonephritis secondary to hydronephrosis and posterior urethral valves". I accept her opinion in relation to the cause of death.

15. Toxicological analysis of post mortem specimens detected paracetamol (~5 mg/L) and electrolytes.

16. Dr Parsons noted that at autopsy there was evidence of bilateral hydronephrosis and anatomical features consistent with posterior urethral valves (or posterior urethral membranes). Posterior urethral valves can occur during the early stages of development and can cause problems in utero and later in life. The membrane causes obstruction of the ureter and backflow up to the ureters and kidneys leading to recurrent infections of the kidneys and dilation of the ureters. They are usually diagnosed before birth, or at birth if the child has

[5] (1938) 60 CLR 336.

ante natal hydronephrosis. If they are not picked up at birth they are usually diagnosed during evaluation of recurrent urinary tract infections.

Circumstances in which the death occurred pursuant to section 67(1)(c) of the *Coroners Act 2008*

17. On 11 September 2014 Baby Ahmed presented to Dr Diner with a one week history of rhinorrhoea[6] and diarrhoea. At the time he was not febrile[7] and an ear, nose and throat examination was normal. A faecal sample was taken and symptomatic management was suggested.

18. On 12 September 2014 Baby Ahmed was reviewed by General Practitioner, Dr Arash Samadi, at the Westgate Medical Centre in Hoppers Crossing. He presented because of the onset of fever and breathing difficulties. He was noted to have a low-grade temperature (37.9 C) and coryza[8] but examination was otherwise normal. Dr Samadi diagnosed a viral infection and suggested paracetamol, hydration and review at the GP practice the following day, or a hospital review if symptoms worsened.

19. During the night Baby Ahmed's parents noted he had an on-going fever, laboured breathing, vomiting and abdominal bloating. A locum General Practitioner (GP) diagnosed a viral infection. Following the GP's departure, his parents were concerned that Baby Ahmed's breathing had worsened, so they called an ambulance. Baby Ahmed was transported to Werribee Mercy Hospital (WMH) for further assessment.

20. At 4.12am on 13 September 2014 Baby Ahmed arrived at the WMH Emergency Department (ED). At triage he had grunting respirations and tracheal tug. At 6.12am on medical review by ED resident, Dr Chia, Baby Ahmed was febrile (temperature 38.4 degrees Celsius) with a heart rate of 144 beats per minute, a respiratory rate of 36 breaths per minute, and oxygen saturations of 100 percent in room air. His abdomen was distended but soft on palpation, with no tenderness. There was no documentation of Baby Ahmed's blood pressure, capillary perfusion time or urine output. The working diagnosis was that he had either a viral upper respiratory tract infection or bronchiolitis. Baby Ahmed had a chest x-ray and an abdominal x-ray. The medical record noted that the chest x-ray showed a "viral picture". No mention is made of the abdominal x-ray result.

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[6] Rhinorrhoea is the discharge of fluid and mucous from the nose.
[7] Febrile is elevated core body temperature.
[8] Inflammation of the nasal mucous membrane.

21. Contrary to the medical record, the formal chest and abdominal x-ray report available to the Court identified mild faecal loading with no other abnormality, which was corroborated by the VIFM Radiologist, Dr Chris O'Donnell, who reviewed the images. Baby Ahmed was given paracetamol and ibuprofen, and trialled on oral fluids. He was observed in the ED, and also given ondansetron. The nursing record noted that he looked very lethargic at 7:40am, and medical staff were informed of this. He was handed over to the day medical staff, Dr Ramanathan. At this point Baby Ahmed was noted to have increased work of breathing with decreased feeding, although was taking small amounts of hydrolyte orally. There were no abnormalities on auscultation of his chest. Baby Ahmed was provided with symptomatic management. He was discharged from ED at 10:30am and his parents were advised that if symptoms worsened he should attend Sunshine Hospital.

22. At 2.49pm on 14 September 2014 Baby Ahmed was reviewed by GP Dr Sunil Bhojwani at the Westgate Medical Centre. Dr Bhojwani described a partial response to symptomatic treatment. Documentation of the clinical examination reported an alert and active child with a low-grade temperature (37.8 degrees Celsius), normal ENT and respiratory examinations, normal hydration status, soft abdomen on palpation with no tenderness and no palpable masses. He was noted to have not had a bowel action for two days. Dr Bhojwani diagnosed Baby Ahmed with a viral upper respiratory tract infection and constipation. He prescribed a suppository and encouraged symptomatic management, including paracetamol administration.

23. On the evening of 14 September 2014 Baby Ahmed's mother was preparing to take him to the Royal Children's Hospital (RCH) for further assessment. She reported that throughout the afternoon Baby Ahmed had become more lethargic and was not taking oral fluid. At 7:00pm he started vomiting and again developed abnormal breathing. He then had a seizure, at which point an ambulance was called at 7:34pm.

24. Ambulance Paramedics arrived at 7:42pm. On initial assessment Baby Ahmed was not responsive and had no recordable blood pressure. Additional ambulance support was requested. Cardiopulmonary resuscitation was initiated, however Baby Ahmed failed to respond. He was declared deceased at 8.52pm.

Medical Investigation

General Practitioner Reviews Prior to Death

25. Baby Ahmed was seen by numerous medical practitioners prior to his death. It is notable that he was never reviewed by the same doctor more than once, perhaps a feature of his illness having occurred over a weekend.

26. Initial review by Dr Diner on 11 September 2014 focussed on the presenting symptoms of rhinorrhoea and diarrhoea. An ear, nose and throat (ENT) examination was normal and a faecal sample was requested, although it is uncertain whether this was collected. There is no indication as to a possible differential diagnosis. The following day, in the context of the development of fever and breathing difficulties, Baby Ahmed was reviewed by Dr Samadi. Dr Samadi's impression was that Baby Ahmed had a viral infection. He prescribed symptomatic management and arranged for follow-up the following day at the GP practice. He also recommended presentation to hospital if Baby Ahmed's condition worsened. Based on the medical records, both of these assessments and management plans seem appropriate. Importantly, Dr Samadi made arrangements for follow-up.

27. A locum GP reviewed Baby Ahmed in the early morning of 13 September 2014 and diagnosed a viral illness. Medical records are not available for this consultation. Soon after this review, Baby Ahmed's parents were concerned by a deterioration in his breathing and as a result went to the ED of WMH.

28. At 2.49pm on 14 September 2014 Baby Ahmed was reviewed by Dr Bhojwani. Clarification was sought from Dr Bhojwani with regards to his assessment of Baby Ahmed on the day of his death. Dr Bhojwani provided two statements, and after reviewing these I have concluded that his management in the setting of Baby Ahmed's father's main concern about Baby Ahmed's lack of bowel motions was reasonable.

Expert Opinion from Dr Robyn Parker, Emergency Department Physician

29. An expert opinion was obtained from Emergency Department Physician, Dr Robyn Parker. With regard to Baby Ahmed's clinical assessment at Werribee Mercy Hospital, Dr Parker commented that Baby Ahmed had many "red flags" for treating staff at WMH to have been concerned. Three presentations to doctors in two days, becoming worse, parental concern, and in particular features of respiratory distress with fever and clinical dehydration, are all worrying aspects of the clinical assessment. As per the RCH guidelines and from a

perspective of common sense, Baby Ahmed was clearly in the 'looks unwell' category, and at the very least, should have received a septic workup and some intravenous fluid therapy.

30. Dr Parker also commented that the assessment of Baby Ahmed's hydration status was inadequate and that there was no documentation of Baby Ahmed's urine output or capillary perfusion time. Dr Parker also commented that the management instituted, small sips of fluid in a lethargic child with features of early shock, was also inappropriate.

31. Dr Parker commented that Baby Ahmed's blood pressure was not taken at any stage, which may have shown hypotension and made the treating staff query shock rather than attributing the high heart rate and respiratory rate to a viral chest infection. The normal respiratory findings on assessment, combined with a fever, lethargy and respiratory distress, should have prompted consideration to other sources of bacterial infection, particularly the urinary tract, as causing Baby Ahmed's clinical findings.

32. Dr Parker did not believe the diagnosis of bronchiolitis was appropriate. She commented that a respiratory infection significant enough to cause increased respiratory effort would also be expected to result in abnormal findings on chest examinations and low oxygen saturations, both of which were not found in this case. Dr Parker conceded that on Baby Ahmed's first presentations to Dr Diner and Dr Samadi, the presumed diagnosis of a viral chest infection was not entirely unreasonable, but at the third presentation, this was no longer an appropriate working diagnosis.

33. Dr Parker stated that during the course of the emergency admission to WMH alternative diagnoses, particularly urinary infection and sepsis of undifferentiated origin, should have been excluded or treated. This was the opportunity to properly diagnose and treat Baby Ahmed and it was missed. Dr Parker was of the opinion that other investigations should have been conducted for Baby Ahmed during his presentation to WMH. Baby Ahmed should have been worked up along accepted guidelines for an unwell, febrile child under 12 months of age. He should have received urinalysis, blood tests and intravenous antibiotics. His lethargy and poor oral intake should also have prompted a check of his renal function during the taking of bloods for a septic workup, and the administration of intravenous fluid therapy. A finding of renal failure alone would have prompted admission for further investigation. The only test ordered was a chest x-ray, which was entirely unhelpful in this case.

34. Regarding the issue of discharge advice provided to Baby Ahmed's parents by medical staff at WMH, Dr Parker commented that in general, written advice and arrangements for formal follow up should always be provided to patients leaving any emergency department. This is particularly the case for a sick child. Dr Parker was of the opinion that Baby Ahmed's discharge was inappropriate, and that specific reasons to re-present were not provided to his parents. Dr Parker also pointed out that Baby Ahmed was already experiencing symptoms that would prompt re-presentation, such as lethargy, laboured breathing and poor fluid intake.

35. Dr Parker's final comment was that children in the less than 12 month age group are sometimes difficult to assess and many infectious illnesses in children of this age are benign, viral and self-limiting and present similar to Baby Ahmed's initial presentation to the GP. However, once Baby Ahmed's condition continued to deteriorate, and he had clear signs of decompensation (laboured breathing, grunt, lethargy), there was an opportunity at Werribee Mercy Hospital for his critical condition to be recognized and treated. This opportunity was missed and as a result, tragically, Baby Ahmed died of a severe yet treatable condition.

Emergency Department Review by Werribee Mercy Hospital Mortality and Morbidity Committee

36. Dr Pasco, the Emergency Director at WMH, made comments addressing the policies and protocols in place in the WMH ED, and the review process undertaken following Baby Ahmed's death. The main points of his statement were that the WMH ED follows the RCH clinical practice guidelines when assessing and managing children, and that it is not routine to provide written information to patients who are discharged from the WMH ED. A system now exists within the department that enables discharge summaries to be faxed to GPs if the GP is recorded within the system.

37. Baby Ahmed's death was reviewed by the WMH ED Mortality and Morbidity Committee. The main findings of this review were that tachypnoea[9] in children may not always be due to a respiratory illness, but the assessing doctors were comfortable with their diagnosis of bronchiolitis. Baby Ahmed responded to supportive therapy, including fluid and paracetamol. Baby Ahmed may have presented with a simple urinary tract infection which progressed to septicaemia over the following 48 hours. Posterior urethral valves are rare and it would be unusual for them not to have been diagnosed by 11 months. A careful explanation was given to the parents, who were advised to seek further medical attention if Baby Ahmed's situation changed. A low threshold for admitting sick children was advised,

[9] Abnormally rapid breathing.

although it was noted that this requires transfer to either Sunshine Hospital or the RCH, as WMH does not have a paediatric ward, and that the treating clinicians' decision to discharge with ED follow-up as required was thought to be appropriate.

FINDINGS

38. Having investigated the death of Baby Ahmed, and having considered all of the available evidence, I am satisfied that no further investigation is required.

39. I make the following findings, pursuant to section 67(1) of the *Coroners Act 2008*:

(a) that the identity of the deceased was Baby Ahmed, born in October 2013; and

(b) that Baby Ahmed, who had acute on chronic pyelonephritis secondary to hydronephrosis and posterior urethral valves, died in September 2014, at Hoppers Crossing, Victoria from urosepsis and renal failure; and

(c) that the death occurred in the circumstances described in the paragraphs above.

RECOMMENDATIONS

40. Pursuant to section 72(2) of the **Coroners Act 2008**, I make the following recommendations connected with the death:

1. That the Department of Health and Human Services require that Emergency Departments in hospitals be mandated to provide a legible discharge summary if it is reasonably foreseeable and that upon discharge from the treating department, follow-up of a patient is required by another health service or health professional.

2. That the Werribee Mercy Hospital Emergency Department uses Baby Ahmed's specific case example in staff education to highlight:

a. The Royal Children's Hospital Clinical Practice Guidelines for assessment and treatment of a febrile child;

b. The importance of evaluating hydration status and taking a blood pressure in paediatric patients;

c. The importance of considering differential diagnoses;

d. The importance of formal follow up arrangements and provision of discharge information to families; and

e. The consideration of consultation with specialist paediatric services in certain situations, such as, when there have been multiple presentations to medical services for the same issue.

41. I convey my sincerest sympathy to Baby Ahmed's family and friends.

42. Pursuant to section 73(1) of the *Coroners Act 2008,* I order that this Finding be published on the internet.

43. I direct that a copy of this finding be provided to the following:

(a) Baby Ahmed's family, senior next of kin;

(b) Investigating Member, Victoria Police; and

(c) Interested Parties.

Signature:

MR JOHN OLLE
CORONER
Date: 25 May 2017

Coroners Court of Victoria