Articles

The vitamin D and rickets case: *LB Islington v Al Alas and Wray*

JO DELAHUNTY QC, 4 Paper Buildings
KATE PURKISS, Barrister, Coram Chambers

In the recent high profile case *LB Islington v Al Alas and Wray* [2012] EWHC 865 (Fam), [2012] 2 FLR (forthcoming) there were allegations that the parents had inflicted multiple fractures to, and caused the death of, a first born baby Jayden, prompting the local authority to commence proceedings in relation to a second child, Jayda. The assessment of risk posed to Jayda by her parents was entirely dependent on findings in relation to the injuries allegedly inflicted upon her brother.

Jayden Al Alas Wray (born on 7 March 2009; died on 25 July 2009) was said by the London Borough of Islington to be a victim of baby shaking, demonstrated by the classic TRIAD of injuries (subdural haematoma, encephalopathy and retinal haemorrhages) to which fractures at multiple sites and of varying ages added additional evidence of violence to substantiate death through non-accidental injury (NAI). At the conclusion of a 6 week fact-finding hearing before Theis J all allegations against the parents were found not proven. In summary:

- all fractures were a product of rickets;
- death was attributed to a constellation of benign causes, namely:
  - severe vitamin D deficiency rendering the baby vulnerable to infection and seizures;
  - ongoing seizures leading to raised intercranial pressure, retinal haemorrhages, subdural haematoma, culminating in hypoxic ischemia brain injury and death;
  - significant intervening events between admission and death included 'sub optimal' medical treatment by University College London Hospital (UCLH).

Jayden had been treated by both UCLH and Great Ormond Street Hospital (GOSH) between his admission and death. Both hospitals attributed all his injuries to NAI. Eleven bony fractures were identified by GOSH including a skull fracture and traumatised fissure. GOSH 'missed' radiological evident signs of rickets and specifically excluded any underlying metabolic bone disease to account for the fractures leading to errors in clinical judgment about the amount of force required to cause the fractures, the mechanism that created them and/or the age. This clinical misjudgement led to the erroneous conclusion that the skull fracture was contemporaneous with the child's collapse and was linked to the cause of death. GOSH could not have been more wrong.

But for the vigilance of Dr Irene Scheimberg the paediatric pathologist who conducted the post mortem, Jayden's vitamin D deficiency and rickets may have gone undetected in death as it had been in life and the outcome of the criminal and care case for the parents and Jayda could have been very different.

Judgment in the *Al Alas case* was handed down by Theis J on 19 April 2012 after the conclusion of a second hearing listed to determine if any of the clinicians, professionals or experts named within the judgment, or the institutions they were employed by, should be granted anonymity. The mother's lawyers led the argument that there should be full publication of the judgment and that she should have total freedom to name those who had failed her and her son. Chana Al Alas wanted to be

able to reclaim her daughter with pride, without the fear that suspicions surrounding the death of Jayden would haunt the family, blighting their future family life just as she and her partner Rohan had a chance to become parents again.

The parents had previously faced a murder trial at the Central Criminal Court where the judge had, on 9 December 2011, directed the jury to acquit the parents due to conflicting expert evidence. Although the criminal proceedings had concluded, proceedings were extant regarding his sister Jayda. She had been born to the parents on 17 October 2010 and immediately removed at birth. Despite the acquittal at the direction of HHJ Kramer QC, and his reasoned judgment for withdrawing the case from the jury, the local authority pursued a fact-finding hearing against the parents, adopting wholesale the Crown's experts and their TRIAD analysis alleging death caused by NAI in the context of skeletal fractures of varying ages pre-collapse caused by excessive and inappropriate force. With the Crown experts now forewarned as to the parent's defence of death due to the effects of vitamin D deficiency and fractures caused by rickets, and the lower standard of proof in family proceedings, the local authority pressed on for a different outcome in the Family Division. They failed to do so.

Implications

This case, and the judicial analysis of the medical evidence and science given in it over the course of 4 weeks of medical and expert evidence, has serious implications for the future assessment of other vitamin D and rickets cases and may throw into doubt some findings previously made where rickets was undetected and fractures attributed to excessive force. This case highlights:

- the paucity of research into the ramification of vitamin D deficiency and rickets;
- the significance of the clinical picture and the necessity for all treating medics and experts to keep it in mind and apply it to their analysis;
- the lack of experience/inability of some senior paediatric radiologists to be alert to and have the skills to detect radiologically evident 'classic' signs of rickets together with the implication of this when NAI is diagnosed;
- the limitations of treating medics (however senior) as experts of opinion;
- the extent to which experts can make a difference to outcome;
- the greater freedoms that the criminal defence teams have to instruct and be advised by the experts they select, including their relative freedom to seek out and call experts from outside the UK;
- the importance of openness in the family courts: in terms of evidence given as well as outcome.

These are aspects of the case which will be developed in subsequent articles by these authors.

The facts

The birth: the mother, Chana, was just 16 and the father. Rohan, 19 when Jayden was born. Both parents were black. Jayden was born on 7 March 2009. His mother breast fed her baby from birth. Chana was not given any advice about vitamin D deficiency. Her own levels were not tested, neither were her baby's. There were no concerns regarding Jayden or the couple's parenting until the baby was admitted to UCLH for his critical admission on 22 July 2009 aged 4 months. He died 3 days later at GOSH.

The clinical picture pre-collapse: Jayden had fed and gone to sleep as normal but the parents had woken to find his tongue 'stuck' to the roof of his mouth. He would not feed. The parents rang the out of hours emergency medical help line and were told to take him to the GP which they did later that morning. At some point they noticed 'fit like' movements. They told the GP: he noted the unusual appearance of the tongue, carried out a physical examination, noted the parental concern about fitting but described the baby as 'awake' on examination. Given that Jayden had been taken by the parents to UCLH a week before over concerns he had flu, the GP erred on the side of caution and referred the baby to UCLH walk in clinic. This was not seen to be a clinical emergency. No

ambulance was called by the clinic and the parents made their way to UCLH by public transport.

The receiving hospital UCLH: on clinical reception Jayden showed further signs of fitting observable by nursing staff but not identified or immediately acted on by the receiving consultant paediatrician. The fitting continued and only after a second assessment by the same paediatrician was Jayden referred to A and E where he was assessed as 'A' (for Alert) on the AVPU range and 13/15 of the Glasgow Coma Scale. Despite emergency treatment to contain his seizures Jayden's condition deteriorated rapidly, the fits increased in intensity and he showed signs of decerebrate posturing. Jayden was referred for intubation and a skull x-ray to see if emergency neurological surgery was needed. There was a 90 minute delay in intubation, the tube was wrongly inserted and led to the collapse of a lung. This was not immediately detected and when it was remedied was untimed. Most significantly, what had been intended to be a 30 minute absence from paediatric care for a head CT to see if neurological surgery was required turned into a 4 hour absence after a skull fracture was detected and the focus of Jaydens care turned into radiological investigation into NAI rather than clinical management of his condition and seizures.

The examination of his clinical presentation, subsequent deterioration and the medical treatment given to him (or not) in this 4 hour period 'off ward' period became a critical factor in the care case. Although a UCLH radiologist had queried rickets based on a chest x-ray to check chest intubation this was discounted by the paediatrician on the basis that calcium levels appeared normal. Rickets was not to reappear until Dr Sheinberg raised it at post mortem. Jayden remained in the radiology department for 4 hours while he underwent further CT scans and an MRI scan, which showed he had suffered a skull fracture, brain injury and subdural haemorrhage. Professionals at the hospital were now deeply suspicious that the parents had inflicted Jayden's injuries. He was transferred to Great Ormond Street Hospital. In the meantime his condition

had further deteriorated and he was still showing signs of seizures for which he had been given no medication sice admission.

Transfer to GOSH: arrival at 7.45 pm 22 July 2009: once at GOSH Dr Peters, consultant paediatric intensivist, assessed Jayden's condition as incompatible with life. Jayden's presentation pre-admission to and at UCLH was not given in detail by UCLH or enquired after by GOSH. Dr Peters acknowledged that the system in place for transfer of notes was 'chaotic'. NAI was strongly suspected by Dr Peters and his team and investigations were undertaken to consider that possibility. Jayden was found to have retinal haemorrhages to add to the picture presented by subdural haemorrhages and encephalopathy. By 10.10 pm that evening Dr Peters felt able to record in Jayden's notes 'in the absence of any explanation thus has all the features of inflicted head trauma'. (This remained Dr Peter's evidence throughout the criminal and care proceedings despite the clinical picture that emerged therein.) In addition, skeletal fractures were identified by Dr Hiorns, consultant paediatric radiologist upon reviewing a skeletal survey. Dr Hiorns concluded that all 11 fractures detected were likely to have been caused by NAI and specifically discounted metabolic bone disease as a cause. She also timed the fractures as all between 0–7 days old, ie potentially contemporaneous with the baby's collapse.

The death: the parents were arrested at GOSH by Jayden's bedside on suspicion of grievous bodily harm (GBH) on 23 July 2009. They never saw Jayden again. Although released on police bail, conditions prohibited their ability to return to GOSH where Jayden was christened and died on 25 July 2009. No parent or family member was allowed to be present.

The post mortem: Dr Scheimberg was instructed by the coroner to perform the post mortem (against the express wishes of the police). She observed radiological signs of rickets on the GOSH x-rays (the same material examined by Dr Hiorns) and suspicions of rickets were enhanced by her physical examination of the ribs and skull. She initiated requests for vitamin D testing of Jayden and his mother and faced subsequent police criticisms in the criminal trial for so doing. Test results later showed that Chana had severe vitamin D deficiency passed to Jayden in utero leading to congenital rickets, a condition that became more severe in life as the mother's vitamin D deficiency remained undetected and continued to be passed on to Jayden through her breast milk.

Cause of death: the conflict between the pathologists

Dr Scheimberg (instructed by the coroner) conducted the post mortem alongside Dr Rouse. Dr Scheimberg concluded that the death was as a result of hypoxic ischemic injury, cause undetermined in the context of severe vitamin D deficiency and rickets. Dr Cary (forensic pathologist instructed by the metropolitan police) observed the post mortem. He concluded that Jayden died as a result of NAI (shake/impact). The parents were charged with murder and causing or allowing the death of a child.

Jayda

Meanwhile Jayda was born on 17 October 2010. She was removed at birth into police protection. Chana was compelled to give birth without the presence of her partner or family as police and the local authority feared that Chana, her partner or family members might deliberately injure the new born baby to try to prove that Jayden's injuries had been birth related. Chana was not allowed to see or hold her new born baby and was only given a picture of her at the insistence of the midwife. Jayda was placed in foster care where she remained until the conclusion of the Theis J case. Despite a positive independent social workers assessment, the family's belief that neither Chana nor the father would ever have hurt Jayden made them all unacceptable family placements in the view of the local authority. Following the initial refusal of contact, the High Court directed supervised contact between Jayda and her parents which was, by agreement, exemplary. For 18 months Jayda was placed in foster care.

Experts, the triad and its demolition: classic triad or benign cause of collapse and death?

The High Court had the assistance of many eminent experts including Dr Cary,

Dr Scheimberg, Professor Luthert, Professor Bonshek, Dr Smith, Dr Ramsay, Professor Nussey, Dr Cohen, Professor Barnes, Dr Miller, Dr Van Ee and Professor Malcolm. It emerged that Jayden had been seen by health professionals on 30 occasion's right up to 5 days before they brought him to UCLH and at no stage did they see any signs of bruising or pain. The parents argued, through American experts Professors Barnes and Miller, that as a result of rickets it was impossible to conclude that any of Jayden's fractures could have been caused by anything other than normal handling.

In respect of the fractures, the local authority relied on the evidence of Professor Malcolm, who stated that whilst some of the fractures could have been due to rough handling/rickets, the skull fracture, the metaphyseal fractures and two other fractures were due toNAI. None of the fractures were dated by him as any having occurred within 5 days of death: the skull fracture he dated as 7–14 days old, ie not connected to Jayden's death. The description of Jayden's rickets as 'moderate to severe' by Dr Scheimberg was agreed by Professor Malcolm, who not only conceded that he had only ever come across one other case of rickets as severe as Jayden's since the 1970s but also that the terms 'moderate to severe' was to be seen in context of the 'severe' being a condition incompatible with life and not seen in the UK in his experience. Moreover, it emerged that the medical research he relied on to conclude that metaphseal fractures were unaffected by rickets lacked firm foundation and the conclusion he thus drew from it to diagnose NAI were unreliable.

Dr Malcolm expressed the view that recent haemorrhage around the site of the skull fracture and traumatised fissure took place within 24 hours of death, which was when Jayden was on PICU at GOSH and denied contact with his family. This contradicted the prosecution's case advanced at the criminal trial and adopted by the local authority that this bleeding was evidence of inflicted trauma contemporaneous with Jayden's collapse. It was not suggested by anyone that Jayden had been injured whilst on the ward at GOSH but the fact he had sustained apparently spontaneous bleeding whilst on the PICU evidenced that he was a 'very fragile child'.

In respect of head injury and 'the triad', the parents' expert evidence suggested that the retinal haemorrhages could have been caused by raised intra-cranial pressure; the subdural haematomas (SDHs) through hypoxia, which had been caused through sustained seizures. It became apparent not only from the evidence of medical witnesses who saw Jayden before and shortly after his admission to UCLH but from the CCTV of the bus journey that the parents took that morning (which had not been made available during the criminal trial but was obtained for the family trial) that Jayden was conscious when he arrived at UCH. There was consensus amongst the experts that had Jayden's injuries been caused by inflicted trauma, he would have been noticeably very unwell immediately. Dr Mark Peters had stated at the criminal trial that he would have expected the child to have collapsed immediately or 2 minutes after having been subjected to trauma. When Dr Peters learned that Jayden had been assessed as 'alert' soon after arriving at the hospital, he expressed surprise and attempted to argue that the health professionals had been mistaken in believing Jayden was conscious and that they were using an outdated assessment chart. He sought to reinterpret the observations and conclusions of the many clinicians who had seen Jayden and argued that Jayden had in fact been exhibiting signs of 'decerebrate posturing' on admission rather than seizures, a sign of profound neurological abnormality caused by irreversible brain injury.

The key period in understanding Jayden's decline and death was identified as being a 4 hour period after Jayden's intubation when he moved between different imaging departments at UCLH without effective paediatric over view of clinical management of his seizures or his CO2 levels. In this period, seizure medication was drawn but not administered until the retrieval team arrived at 6.00 pm. On intubation, the tube had been wrongly placed causing one of his lungs to collapse but this was not identified for at least 20 minutes. After this Jayden's CO2 levels had risen to dangerous levels but by then he was probably en route

to or at the radiology department and it was unclear when the tube had been correctly positioned. By the end of the afternoon when the retrieval team arrived, his condition had deteriorated to the extent that there were clear signs of raised intracranial Pressure (ICP) which the team struggled to control, even with very aggressive treatment. Expert evidence (although contradicted by Dr Peters) suggested that the fluctuating CO2 levels and raised ICP could have contributed to his deterioration, as well as the hypoxic-ischemic injury he suffered. Both ophthalmologists agreed this could have been the cause of his retinal haemorrhages.

Judgment

Theis J further found that Jayden was conscious and was suffering from seizures when he arrived at UCLH which were not adequately brought under control during his treatment at UCLH which she described as 'sub optimal'. She concluded that because of Jayden's rickets she could not be satisfied that any of the fractures were a result of inflicted harm. Dealing with the triad of injuries, she concluded that the retinal haemorrhages were more likely to be secondary to Jayden's hypoxic ischaemic injury and the encephalopathy was not due to inflicted trauma. However, she concluded that the subdural haemorrhage was more likely to be caused by trauma, recording the view expressed by some of the experts that there needs to be more research into whether subdural haemorrhages can be caused by hypoxia, as argued in this case by Dr Cohen and Scheimberg. She stated that her finding on SDH had to be looked at in the context of her findings about the other component parts of the triad, the clinical history and her assessment of the parents. She concluded that although the evidence pointed to the SDH having been caused by trauma, the balance of the evidence pointed the other way.

The judgment and anonymity: to be or not to be?

The draft Theis J judgment was made available to named legal advisers and professionals under the strict control of the court. Time was permitted for the professionals named within it to apply to the court should they seek anonymisation. The mother sought full publication, without restriction, and the right to refer to the evidence filed and heard by the court so as to be able to declare to the world that she and her partner were fit parents and had not murdered their child. The matter was heard on 19 April 2012. GOSH were represented by leading counsel and, while not seeking to keep Dr Peters and Dr Hiorn's names from the judgment, wanted to rewrite paragraphs relating to Dr Peters' evidence and the fact that GOSH had 'missed' rickets. UCLH sought anonymity for all professionals named. The local authority sought to prevent publication of Jayda's name pursuant to s 12 of the Administration of Justice Act 1960, despite no longer having parental responsibility for the child and s 31 proceedings having been dismissed. Islington Health Authority made no applications on behalf of the various community care workers. *The Times* attended and supported the mother's application for full identification, as did the father. The mother's legal team led and was successful on all points argued. No part of the judgment was re-written and no names were redacted. The parents were permitted to refer to the medical and expert evidence and to name Jayda.

The scene was now set for a full and informed appraisal of their experiences at the hands of social services, the hospitals and the police and science that had threatened to deprive them of their liberty and their child. Their experiences have relevance for other parents and children. There are serious lessons to be learnt from this case.

Jo Delahunty QC and Kate Purkiss (instructed by Goodman Ray Solicitors) were leading and junior counsel for the mother. Additional contributions to this article were made by Christopher McWatters, Garden Court Chambers (instructed by S A Carr & Co Solicitors) who was junior counsel for the father.