



NOT REPORTABLE

**IN THE HIGH COURT OF SOUTH AFRICA
KWAZULU-NATAL DIVISION, PIETERMARITZBURG**

APPEAL CASE NO.: AR537/2019

**MEC FOR HEALTH FOR THE PROVINCE
OF KWAZULU-NATAL**

APPELLANT

(Defendant in the Court *a quo*)

and

AMANDA DAVIES

RESPONDENT

(Plaintiff in the court *a quo*)

Order

The following order is made:

1. The appeal is upheld and the order of the court *a quo* is set aside. There is no order as to the costs of the appeal.
2. The order of the court *a quo* is replaced with the following order.
“The defendant is absolved from the instance. There is no order as to costs.”

J U D G M E N T

Delivered : This judgment was handed down electronically by circulation to the parties' legal representatives by email and publication on SAFLII. The date and time for hand down is deemed to be on 21st January 2021.

Olsen J (Chili J et Bezuidenhout J concurring)

[1] This is an appeal by the MEC for Health for the Province of KwaZulu-Natal, with the leave of the court *a quo*, against an order directing the appellant to compensate the respondent, in her representative capacity as mother and natural guardian of a child who I shall refer to as "KLO", as a result of brain damage sustained by him allegedly at or in the course of birth. At the commencement of the trial the issues of liability and causation were separated for determination before all other issues. At the trial it was common cause that KLO is a victim of cerebral palsy. This is another of those sad cases where the court is charged with the duty of determining whether the appellant's employees were responsible for another manifestation of this condition.

[2] I do not propose to traverse the pleadings. The issues manifest at trial do not coincide precisely with what was pleaded by the appellant.

[3] KLO was born on 14 May 2009 at the Wentworth Hospital, Durban. The hospital had an obstetric unit run exclusively by midwives. It operated as a community health centre and was not attended by an obstetrician. The facility was designed and able to deal only with so-called "low risk births". Other cases would generally be referred to the King Edward VIII Hospital in Durban where attending obstetricians were stationed, and in particular where caesarean section deliveries could be undertaken. If a birth at the Wentworth Hospital was not going well a transfer to King Edward VIII Hospital was an available option. However according to

the appellant's evidence such a transfer takes all of two hours or more. In my view the explanation offered by the appellant for that is highly questionable. Given the proximity of the two hospitals it seems to be unreasonable that bureaucratic and logistical arrangements should be so poor as to turn a twenty minute drive into a two hour delay.

[4] The respondent was admitted to Wentworth Hospital at about 2 o'clock in the morning on 14 May 2009. KLO was to be her first child. She was examined and admitted to the labour ward. KLO was born at 19h10 that night.

[5] Although a cardio tachograph device ("CTG") was applied to the respondent's midriff during the course of labour, no readings after 16h30 were taken. The learned trial Judge recorded the disturbing fact that in more than one of these medical negligence cases that have come before this division incomplete records were produced in respect of what may turn out to be a crucial stage of labour. Besides the fact that inadequate record keeping is a breach of the obligations of a hospital, the consequences in cases like this are, inter alia, that

- (a) expert opinion evidence becomes more speculative than is desirable; and
- (b) back-analysis from radiological studies becomes a more prominent tool than it perhaps should be.

[6] Working with what was available to him the learned Judge *a quo* summarised the progress of the respondent's labour and the information available regarding the foetal heart beat as follows in paragraphs 21 and 22 of his judgment. The summary is not disputed.

"[21] The maternity records that were produced in court reveal that:

- (a) when the plaintiff was admitted to the hospital at 02h00; she was recorded to be already two (2) cm dilated and experiencing 'contractions moderate x 2 palpable';
- (b) at 06h00 her cervix was three (3) cm dilated and one (1) cm long;
- (c) the plaintiff's condition was reassessed by Ms Adams at 08h00. This assessment revealed that she was coping with labour pains, the foetal heart rate was between 142 to 151 bpm via the CTG, which was reactive, and her cervix was still three (3) cm dilated;

- (d) the plaintiff's membranes apparently ruptured at 10h30 while she was in the shower. This was reported by the plaintiff to the nursing staff;
- (e) the plaintiff's labour was assessed at 12h00 on the 14th of May 2009 by Ms Adams.

This assessment revealed that she was coping with labour pains, that the foetal heart rate was between 129 to 134 bpm, and that her cervix was four (4) cm dilated. It was however queried whether the plaintiff's membranes had ruptured at 10h30 whilst she was in the shower;

- (f) the plaintiff's labour was again assessed at 14h00 and it was recorded that she was not coping with labour pains, the foetal heart rate was 136 bpm, her cervix was five (5) cm dilated with the presenting part being 3/5 above the pelvic brim. The plaintiff's liquor was blood stained;

- (g) Pethidine 50 mg and Maxolon IMI were administered to the plaintiff at 14h25;

- (h) she was once more assessed by Ms Adams at 16h00 which assessment revealed that she was coping with labour pains, but her liquor was blood stained. She was experiencing strong contractions. Her management was to continue with CTG monitoring and monitoring of her vital signs and she was encouraged to mobilise;

- (i) the plaintiff's cervix was found to be fully dilated at 18h00 when it was recorded that she was 10 cm dilated;

- (j) [KLO] was born at 19h10. He weighed 3.5 kg, had a length of 53 cm, and had an Apgar score of 3/10 at one (1) minute and 5/10 at five (5) minutes. He was provided with oxygen via nasal prongs and naloxone to reverse the effects of the pethidine administered to the plaintiff during her labour;

- (k) [KLO] suffered a seizure within the first six (6) hours of birth.

[22] From the above records it emerges that the only record of foetal heart rate monitoring during the latent phase of labour was at:

- (a) 02h00, when it was 120 bpm;
- (b) 06h00, when it was 130 bpm;
- (c) 08h00, when it was 142 - 151 bpm;

The only record of foetal heart rate monitoring during the active phase of labour was at:

- (a) 12h00, when it was 129 -134 bpm;
- (b) 13h00, when it was 129 bpm;
- (c) 14h00, when it was 136 bpm;
- (d) 14h25 (determined by having reference to the time pethidine was administered, as recorded on the CTG trace);
- (e) 16h00, when it was recorded at 118 bpm, and a second recording (allegedly at 16h20) of 130 -135 bpm.”

[7] The heads of argument delivered on behalf of the appellant raised more issues than were actually canvassed in argument before us. In many respects the heads amounted to little more than an invitation to second guess some of the findings of the trial court. That is not the role of an appellate court. In order to determine whether one of two or more conflicting opinions should be preferred, “what is required in evaluation of experts’ evidence is to determine whether and to what extent their opinions are founded on logical reasoning”. See *Medi-Clinic Ltd v Vermeulen* 2015 (1) SA 241 (SCA), para 5, where the learned judge continued as follows.

“It is only on that basis that a court is able to determine whether one of two conflicting opinions should be preferred. An opinion expressed without logical foundation can be rejected. But it must be borne in mind that in the medical field it may not be possible to be definitive. Experts may legitimately hold diametrically opposed views and be able to support them by logical reasoning. In that event it is not open to a court simply to express a preference for the one rather than the other and on that basis to hold the medical practitioner to have been negligent.”

[8] The following findings by the court *a quo* were either not challenged, or where they were, the logical reasoning followed by the learned Judge, and the logical reasoning underlying the opinion which supported his findings, were not challenged much beyond the proposition that contrary views were expressed by others. In my view these findings must stand undisturbed.

- (a) The absence of CTG monitoring of foetal condition after about 4.30pm constituted substandard care. The facts that the respondent was post-date by

one week, that this was her first child, that she had smoked moderately during the early part of the term of her pregnancy and had been treated for syphilis were collectively risk factors which had the potential to render KLO more vulnerable to injury than would otherwise have been the case.

- (b) The latent first stage of labour extended from the respondent's admission at 2 o'clock in the morning when she was already experiencing contractions and was 2cm dilated, until at the latest midday. The foetal heart rate should have been monitored two hourly during that period, but there is no record either at 4am or 10am. This phase of labour exceeded the eight hour period which, according to the appellant's guidelines, required the mother's admission to hospital.
- (c) The active phase extended for 6 hours from 12 noon, and monitoring during this period ought to have taken place at half hour intervals. However there were no regular half hourly records of the foetal heart rate.
- (d) The foregoing required a referral to hospital with full obstetric facilities. It was negligent not to have done so and the negligence was compounded by the lack of proper monitoring, and later on no monitoring, of the foetal condition by CTG.
- (e) Whilst it was common cause that most of the CTG readings illustrate an unremarkable process of labour, the experts were in dispute concerning the significance of some decelerations apparent on the last reading. But the existence of the decelerations, particularly in the light of the respondent's history, should have been evaluated by further continuous monitoring, and it was negligent not to have undertaken it. They could not be presumed to be innocuous.
- (f) The records of the progress of labour records that there was "bloodstained liquor" during the first stage of labour. Dr McLynn, the obstetrician called by the respondent, correctly maintained that this was an early indication of risk. Again, it ought not to have been ignored as innocuous given the other factors mentioned above which pointed to risk.

(g) Accordingly, on an overall conspectus of the evidence, if the respondent was not to have been initially directed to report to King Edward VIII Hospital for the birth, she ought to have been transferred there from Wentworth at an earlier stage to ensure that full obstetric facilities were available, and in particular the facility of a caesarean section, in need.

[9] However the principal argument for the appellant, which was pursued before us, raises the question as to whether all of this is not academic. In simple terms, the real questions, upon which the outcome of this appeal must turn, are what actually happened to KLO, and what if anything could have been done by the appellant's employees to prevent the catastrophic brain damage sustained by KLO even if there had been proper monitoring of the foetal condition at a suitable facility such as King Edward VIII Hospital.

[10] The respondent herself was the first witness in the trial which took place in instalments over a period of just short of four years. When she gave evidence KLO was five years old. Some improvement on his initial condition had taken place over those years. In cross-examination some discrepancies between the respondent's descriptions of KLO's progress over those years, and the reports of examining doctors' were put to her, but none of them appear to me to be relevant to the present enquiry. It is sufficient for present purposes to consider the condition of KLO at the time when the respondent gave evidence.

[11] KLO cannot speak. He had progressed to the point where he made sounds which the respondent described as "baby talk". The respondent had detected that he could identify some sounds, and perhaps some activities, but there appears not to have been any sign of cognition much beyond that.

[12] KLO cannot walk. By the time he was five he had progressed to the point where he was at last able to sit unsupported. He has to be fed. The respondent has to attend to his toilet.

[13] Of considerable importance in this case is the fact that such progress as KLO has made is really on the left hand side of his body. If a ball is rolled to him he can

kick out at it with his left leg and foot. (However that is from a sitting position, and he falls over if he is not supported in the sitting position when performing an activity like that.)

[14] As to his right side, as the respondent put it, KLO tries his best to ignore it completely. If you try and put something in his right hand he will take it away. If you play with his right hand he behaves as though it does not exist. His right foot will kick out in conjunction with his left foot, but he does not “use it” as he would his left foot. It is clear on the record, and as far as I can see undisputed by the various experts called in this case, that the material differences between KLO’s left and right side deficiencies are the product of asymmetric injuries to KLO’s brain, left side damage to the brain being measurably more prominent than the damage to the right side of the brain. (The left side of the brain “controls” the right side of the body.)

[15] Professor Lotz, a professor in radiology attached to the University of Stellenbosch, was called by the respondent to state and explain his opinions following his examination of the scans of KLO’s brain. He expressed the opinion that the scans illustrate hypoxic ischemic injury (“HIE”). Such injuries and their mechanisms are divided into two types. The one is a product of a “prolonged partial process”; and the other of an “acute profound” event. Damage to the brain in the case of an acute profound event occurs within minutes. There is a total (or perhaps near total) interruption of the blood, and accordingly the oxygen supply to the brain. In the case of the prolonged partial process one is dealing with a diminution in the supply of blood and oxygen. Professor Lotz described how, when that condition (which is more often seen in the first stage of labour) prevails over a period of hours, an auto regulatory system comes into play and starts redirecting blood flow from areas of the brain not immediately vital for the achievement of a live birth to the areas of the brain that are vital to the achievement of a live birth. Professor Lotz identified the area that is thus partially deprived of oxygenated blood as the “watershed area”. The diminution in the supply of oxygenated blood in that area of the brain results in damage identifiable by its peculiar shape, and called “mushroom shaped gyri”.

[16] Professor Lotz identified certain mushroom shaped gyri in the watershed area of KLO's brain as well as other profuse injuries to the brain. The area he described as the "motor strip", which is according to Professor Lotz highly susceptible to injury in the case of an acute profound event, was, according to Professor Lotz, "completely destroyed" in this case.

[17] Professor Lotz stressed more than once that the partial prolonged process takes time. In an effort to explain the process to a lay court he referred to the auto regulatory system as a "salvage team" and its process of redirecting blood flow as "stealing blood away". This passage from his evidence describes the scenario, and one of the points that Professor Lotz made in this passage of evidence, that the auto regulatory system is not fully understood, was repeated elsewhere in his evidence.

'Nature has done many, many very interesting things. Nature will protect the reptilian brain above all, it will sacrifice everything, including the whole neocortex, the whole human brain, it will sacrifice that in order to keep the reptilian brain going, because if the reptilian brain goes, life goes. For that to happen, it has devised what we call an auto regulatory system. It can shunt blood from different areas. It can go and steal blood away from the neocortex and pump it into the reptilian brain, if necessary. So, it goes and steals – it can shunt it a way around. We don't quite know how the auto regulatory mechanism works, but we know it can compensate for any problems that may arise. I like to refer to this auto regulatory system as the salvage, because then I understand it. This is the team that comes in to salvage the reptilian brain. M'Lord, to set up the salvage team takes time. So, you've got to phone them, they've got to get their machines out, they've got to get their pumps out, so, this is something that happens over a period of time. This is what we often see in the first stage of labour. If this woman or this child starts developing some kind of distress for some or other reason, the oxygen supply is not what it should be. Then over a period of hours there can be a call to the salvage team and the salvage team will set up a system and it will create a system by which it can start stealing blood away from other areas and pumping it into a reptilian brain. I want to make the point, you need hours, it's a long issue. So, we know that if we see an injury pattern that has got to do with that salvage process, that this properly happened over hours. It is a very important point.'

[18] Professor Lotz came to the conclusion that KLO suffered a mixed pattern of brain injury, that is to say of the acute profound and prolonged partial varieties. He also expressed the view that the partial prolonged injury would have been the

product of an event which preceded (or certainly commenced before) the acute profound injury was incurred. It is difficult to discern the reason for this conclusion from Professor Lotz's evidence. He conceded under cross-examination that as a radiologist he would be going outside his field of expertise if he ventured an opinion as to the precise time of injury. When asked whether he had in previous cases ventured an opinion as to timing of injury he said that he did not think he had. He continued

'I have said in the past and we all know that, that the most likely time for a prolonged partial injury to happen is in the first stage of labour. The most likely time for an acute profound injury to happen is in the beginning or in the course of the second stage of labour. Just from the natural process those are the times that are the real critical times. But I am not in a position to say I am excluding this and excluding that. That's not my field of expertise, I am not an obstetrician.'

[19] Two matters ought to be mentioned in the light of the foregoing, before turning to the appellant's case concerning the cause of KLO's condition.

- (a) The second stage of the respondent's labour started at 6:00pm and KLO was born at 7:10pm.
- (b) The CTG is the principle instrument of warning concerning the onset of a partial restriction on blood and oxygen supply, which is reflected in the behaviour of the foetal heart. Besides the two relatively unremarkable decelerations measured on the last occasion the CTG was used at about 4:30pm, the significance of which in my view was not proved by the respondent, the CTG readings during the first stage of labour that we have do not signify the onset of a partial restriction of the blood and oxygen supply up to that point. Only one and a half hours remained of the first stage of labour during which the CTG was not applied.
- (c) There is no evidence in the account of the birth and in the available medical records of a sentinel event or condition which might account for the

occurrence of an acute profound injury to KLO's brain during the second stage of labour..

[20] A doctor Deneys Reitz was the specialist radiologist called by the appellant. His current area of responsibility is clinical radiological services in eight hospitals within the area of the Pietermaritzburg metro and to the west of the city. He is responsible for running the accredited training programme in KwaZulu-Natal for specialist radiologists. Dr Reitz considered the scans and was called to give his opinion on what may be deduced from them.

[21] Dr Reitz explained that an interruption of blood and oxygen supply to the foetal brain which affects the whole of the brain (which is the case with interruptions typical of the prolonged partial process and the acute profound event or process) normally result in symmetrical brain damage. In this case the brain damage is significantly more severe on the left side than on the right side. He expressed the view that asymmetrical damage can occur as part of "a spectrum of prolonged partial hypoxic ischaemic injury, but that it is relatively rare". (Explaining what he meant by that, he said that out of the approximately 80 cases of prolonged partial hypoxic ischemic injury he had studied, only three resulted in some asymmetric pattern of injury.) Dr Reitz's conclusion was that the scans as a matter of probability evidence an infarct (in lay terms, a stroke) which had its origin in the left carotid artery feeding the left side of the brain which sustained the majority of the damage. He expressed the opinion that the scans also evidence some hypoxic ischemic injury beyond that caused by the postulated stroke.

[22] Dr Reitz also pointed out that it is not possible to judge from the scans as to when the injuries occurred. Indeed it was recorded in the joint minute prepared by Professor Lotz and Dr Reitz that the scans indicate that hypoxic ischemic injury had occurred at some point after approximately 36 weeks of gestation (normally in the last four weeks before birth) but that they cannot confirm the precise timing, which "may have been antenatal, perinatal or postnatal". Dr Reitz explained that from 36 weeks of gestation until approximately six months of postnatal age, pathologically the brain is the same. It will respond in the same way to injury. He explained:

'If we look at an injury that is going to cause a typical acute profound hypoxic ischemic injury pattern, you know, if something happens to the baby in the last three or four weeks of pregnancy, or if something happens during delivery, or if something happens post natally, you are going to get the same pattern on the MRI image. So completely hypothetically – I mean if we were dealing with a three month infant who had a near drowning incident you could have a pattern that looks the same and the radiologist would not be able to tell you when that incident occurred.'

[23] A reading of the evidence of Dr Reitz reveals quite clearly that he was not a dogmatic witness. He recognised and acknowledged the limits of the learning on the subjects under discussion in this case. This passage from his evidence illustrates his approach to the material that he was asked to address when finishing his opinions.

'So my view is at my level of expertise and my level of training, I am not able to say for certain that it is HIE plus a stroke, or just HIE. So that is just me looking at it on my own, so I think both possibilities are there. It is possible that this is asymmetrical HIE. In my view that is unlikely. It is possible that it is HIE and a stroke, and again if that is the case I cannot tell you which order those events occurred in because that is when you want a paediatric neurologist or someone of that level of training to come to that conclusion.'

Dr Reitz acknowledged that he took cognisance of the fact that seven radiologists had evaluated KLO's condition, and delivered reports. Despite the fact that only he and Professor Lotz (of the seven) had been called as witnesses, Dr Reitz could not disabuse his mind of the fact that six out of the seven diagnosed a stroke.

[24] Professor Lotz conceded in his evidence that he could understand why the radiologists would come to the conclusion on the scans taken of KLO's brain that the cause of the damage was a stroke. Indeed, he appears to have been somewhat perplexed by the case and consulted with at least one well known international specialist in order to determine whether his (Professor Lotz's) theorem was possible given the other features of the scans which make this an unusual (and perhaps a highly unusual) case. When this aspect of Professor Lotz's evidence was put to Dr Reitz this passage from the record illustrates Dr Reitz's approach to the issue.

'In other words, in essence he [Professor Lotz] said at first blush it might look like a stroke but if one looks at it he is quite happy that all the injury is hypoxic ischemic damage. --- Well I am not sure why he is coming to that opinion, my opinion is that I cannot put my head on the block that it is one or the other. I think what we are trying to decide here is that there are two possibilities; the one is that it is just hypoxic ischemic injury which happens to be asymmetrical, the other possibility is that it is a stroke and hypoxic ischemic injury. And I am not prepared to be dogmatic enough to say that I am certain it is the one or the other. My opinion is that it is more likely to be the second ...'

[25] Dr Reitz explained the basis upon which radiologists approach reading scans of the type in question here. The learning being applied does not constitute a full understanding of the process. He explained as follows.

'You know a lot of what we know in medicine is based on observational studies where things happen that we know have happened and we then look at the results. And then we go and look, well can we apply that retrospectively and look at the results and determine what happened. ... So the acute profound and prolonged partial are two kinds of extremes of the spectrum based on observations of what happens in the classic situation of either occluding the pipe completely for five minutes or occluding it partially for two hours, or whatever. But between that there is a spectrum because the body does not read the text book, so it is not that you have either no blood flow going to the baby or a little bit and then it comes and goes. So that is why, you know – we get some cases that fit classically into the text book description of acute profound or prolonged partial and we get others that are somewhere with some features of both, and this is one of those.'

[26] Against that background, when Professor Lotz's position was put to Dr Reitz, that the presence of ulegyria either excluded or rendered stroke less likely one sees this response from Dr Reitz.

'It is always the last bits of the logic that does not quite hang together, so you know the fact that there are ulegyria, if we assume that there is and all the other radiologists did not notice it, but if we assume that there is then that would be – you know it is accepted that ulegyria is often associated with HIE but I think to take it to the next step where that means that nothing else happened I do not quite follow how the logic would get to that level. I do not know.'

[27] On my reading of the evidence Professor Lotz did not explain the proposition either, which may explain in part why Dr Reitz responded as he did. Furthermore, in my view it should not be overlooked that it is not Professor Lotz's evidence that a partial interruption of blood and oxygen supply causes the mushroom shaped gyrus. On his theorem, it is the auto regulatory system which steals away blood from the watershed area that causes the mushroom shaped gyrus. The question as to whether something other than a partial obstruction of blood and oxygen flow might engage (or perhaps mis-engage) the auto regulatory system, and cause it to interfere with the distribution of blood in the brain, thereby generating the phenomenon of a mushroom shaped gyrus, was not explored with the radiologists.

[28] Dr Reitz's response when cross-examined on Professor Lotz's other reasons for discounting a stroke was similar. Professor Lotz postulated that there would have had to have been a stroke not just in one artery, but in two (an unlikely occurrence) as, although the damage is asymmetrical, there is some damage to the right side of the brain. Asked whether Professor Lotz was wrong in that Dr Reitz's answer was in the politest terms that one should take care not to be dogmatic. He spoke of variability in arterial supply and continued:

'So my question to myself would be, yes, there are these changes in the left middle cerebral artery distribution so now they overlap a little bit into other arterial distributions, is that just a bit of anatomical variability, or is it that those other changes are actually anyway just part of the underlying HIE?'

[29] The appellant called a Dr V Govender, a paediatric neurologist who works at the KZN Children's Hospital and at Albert Luthuli Hospital. The former facility is a paediatric neuro developmental facility which only deals with neurological problems. He had been asked to provide an opinion on whether KLO's condition was caused by a perinatal stroke or by birth asphyxia. The conclusion of his examination was that KLO had suffered a left middle cerebral artery obstruction which affected predominantly the left side of his brain, and accordingly the right side of his body. Dr Govender reads the MRI scan of KLO's brain as depicting a remarkable asymmetry, the left side being very much more affected than the right side. His opinion is based on two major considerations, a clinical examination and the radiological findings.

[30] Dr Govender explained that if, as a result of the neonatal stroke which he postulates, a big part of one side of the brain is compromised, as in this case, then the brain cannot withstand the stresses of a normal labour with the result that on the other side of the brain energy reserves will be compromised because the whole brain cannot function normally. He concurred with an opinion expressed by a Dr R Singh, a neonatologist called by the appellant, that KLO's brain was probably abnormal when the respondent went into labour, with the result that it could not handle the normal stresses of labour as would a healthy foetus. Dr Govender (like Dr Singh) expressed the view that the seizure within the first six hours of life (as occurred with KLO) indicates a brain already compromised before the commencement of labour. Relying on what he called "clinical experience", and some studies, in the case of HIE seizures occur later, usually after 12 hours.

[31] Dr Govender confirmed that in the classic picture of HIE both sides of the brain are affected resulting in the affliction of both sides of the body.

[32] In his judgment the learned Judge *a quo* summarised the further evidence of Dr Singh and Dr Kara, a specialist paediatrician called on behalf of the respondent. In my view any further analysis of the evidence of those witnesses will not advance the central question to be decided in this appeal. It suffices to say that Dr Kara sought to justify his understanding of the radiological evidence as favouring the respondent's case by reference to a number of issues or circumstances which according to him favoured the respondent's case, whereas Dr Singh saw things differently. It was for the respondent to establish firstly what the cause of KLO's condition is; and secondly that through negligent omission (for that is all that it could have been in this case) the appellant's servants wrongfully and negligently failed to prevent the occurrence. The learned judge *a quo* did not find that the hospital staff, and especially the midwives, did anything to bring about an interruption of the blood and oxygen supply to KLO, and in my view there is no evidence to that effect.

[33] Two elements of the second question can be answered at the outset .

- (a) It was not argued, and nor could it have been, that if the major and operative damage sustained to KLO's brain was, as contended for by the appellant, the product of a stroke, anything could have been done by the attending hospital staff to prevent it.
- (b) Neither has it been argued that in the ordinary course injury of the acute profound type can be avoided by an active non-negligent response by attending medical staff to the realisation that a "sentinel event" which gives rise to such injury has occurred. The injury is sustained within minutes.

[34] As I understand the case argued on behalf of the respondent, the appellant is to be held liable for the injury caused by the acute profound event spoken to by Professor Lotz on the basis of his theorem that the prolonged partial process transformed into an acute profound event. The argument proceeds upon the premise that the development of a prolonged partial condition ought to have been noted by the medical staff who would have reacted, presumably by arranging a caesarean section, before injury of the acute profound type could arise. The argument is of course that with proper monitoring a diminished supply of blood and oxygen would have been noted in time to avoid injury of the partial prolonged type.

[35] It is appropriate to deal first with the issue of the transformation of a prolonged partial process to an acute profound event. Before doing so it must be noted the Professor Lotz made it clear in his evidence that he sought to avoid having knowledge of the progress of labour in the particular case, and of what was done and what was not done in the process by the attendant practitioners, lest such knowledge cloud his analysis of the radiological evidence to which he speaks. Accordingly, even to the day when he gave evidence, he had no knowledge of these matters.

[36] His description of the transformation from one mode of injury to another reads as follows.

'You see, the fact of the matter is the prolonged partial cannot occur if it doesn't occur over hours, because the auto regulatory mechanism needs time to set itself out, so you can't get

it in a short time. Classically what we see is if a woman is in a long stage of labour, she is going 10 hours, 15 hours, whatever, the child is partially in trouble, he's ischemic. It is not picked up. The situation, the pincer keeps on closing, the situation gets worse, worse, worse. More blood is being stolen from the neocortex. But we're keeping things more or less under control. But now the problem comes when this child who is already in a difficult situation, now goes into the second stage of labour. Now people find out that there is a crisis on hand. Now people start looking for ways of getting the child out. This is when the acute profound injury occurs, because now the entire system of being able to assist, is now falling apart, because you've now come over a long period of time in which this child was progressively injured. Now when the acute stage of the second stage comes, this child just simply does not have the capacity, or the auto regulatory mechanism just as not have the capacity, to sustain those deep grey nuclei any further. That's why you see the injury on the deep grey nuclei. I mean those we can't talk away, they are bilateral, they are symmetrical.'

[37] Besides the fact that this exposition does not deal with the fact that there is asymmetric injury, the course of events described in Professor Lotz's explanation does not coincide with the medical records. Counting from 2 o'clock in the morning, the first stage of labour did take quite some time. However there was CTG monitoring until 4:30pm. It did not indicate that KLO was ischemic. Only one and a half hours of the first stage of labour remained after the last CTG reading was taken; and after that delivery occurred within one hour and ten minutes. There is no evidence that there was a crisis on hand. People were not looking for ways to get the child out. In short, in my view the respondent's case lacks an adequate logical explanation for the occurrence of the brain injury sustained by KLO, of the type which would not ordinarily be put down to a prolonged partial process. Before leaving the subject of the duration of a prolonged partial event or process, it is worth observing the answer given by Professor Lotz to a question as to the duration of the process.

'Counsellor, that is an extremely difficult question to answer, because it depends on a number of things. If the factors that are causing the problem are mild, the child can probably go on for several hours, maybe for a day or two. But if things started slowly, but things are getting worse as time goes by, then we are probably talking about three hours, four hours. But we don't see the pattern after hours, because the auto regulatory mechanism needs a

certain time to set up an infrastructure to be able to shunt this blood to the areas where it is necessary. That we don't know exactly how long that is.'

Again, what Professor Lotz had in mind in explaining his view of this case does not appear to coincide with the available medical records.

[38] Professor Lotz conceded more than once, and quite frankly, that but for the phenomenon of the mushroom shaped gyrus, he too would have concluded from the radiological studies that KLO's condition was a consequence of stroke. His evidence was to the effect that the difficulty with the conclusion that this was stroke is that it does not explain the mushroom shaped gyrus. However, if Professor Lotz and Dr Reitz agreed on anything, it is that the auto regulatory system is far from properly understood. It is difficult to fault Dr Reitz's argument that it is not logical to reason along the lines that because the mushroom shaped gyrus is a product of a known partial prolonged event, the existence of that condition in the gyrus has to mean that there was indeed a prolonged partial event. Nevertheless the learned judge *a quo* was clearly correct in concluding that the mushroom shaped gyrus lends support to the respondent's case on the probabilities, but I hesitate to endorse the proposition that it is what the learned judge called a strong probability factor.

[39] In my view Professor Lotz's concession that he would have diagnosed stroke as the cause of KLO's condition but for the mushroom shaped gyrus implies a concession that the diagnosis otherwise adequately explains the injury sustained by KLO; and in particular explains the asymmetry evident with those injuries. The concession also seems to me to be somewhat inconsistent with the contention of Professor Lotz that for the cause of the injury to be stroke, two arteries would have had to have become blocked, an unlikely occurrence. It strikes me that Dr Reitz's observation is logical, that what one might call a leakage of damage may occur from one part of the brain to which blood is supplied by an errant artery, to another part of the brain supplied by another artery, because the areas of blood flow within the brain are not discreet in the same way as the arteries themselves are.

[40] It strikes me also that the assertion by the appellant's witnesses that a foetus already afflicted with injury due to stroke is ill equipped to deal with labour, which

might result in ischemic injury during the course of birth, is no less logical than Professor Lotz's postulation that a foetus afflicted with the consequences of a partial prolonged event is ill equipped to deal with the second stage of labour during which, as a result, injury of the acute profound variety may take place. In both cases no evidence was given to explain the mechanism behind the assertions, presumably because the state of the learning on the subject has not advanced far enough to do so.

[41] Ordinarily it is for the plaintiff in a case such as this to prove on a balance of probabilities that the conduct complained of caused the harm in respect of which compensation is sought. (See *A.M. obo K.M. v Member of the Executive Council for Health, Eastern Cape* (699/17) [2018] ZASCA 141 (1 October 2018) at para 65.) Here, because the mechanisms by which the harm or injury took place were in dispute, the respondent had to establish on a balance of probabilities that the mechanism was one which raised the question as to whether, but for the negligence of the appellant's employees, it would not have occurred, or could have been avoided. The learned Judge *a quo* found that the respondent had succeeded in establishing that the mechanism was the one contended for by Professor Lotz. For the reasons already discussed above, I am in respectful disagreement with that conclusion. In my view the learned Judge *a quo* in particular lent too little weight to

- (a) Dr Reitz's criticism of Professor Lotz's mode of reasoning; and
- (b) the fact that the diagnosis of stroke offers a more logical and plausible explanation for the asymmetric quality of the brain injury sustained by KLO.

[42] The mixed pattern of injury with asymmetric characteristics renders this case more difficult and complex than those typically brought before the courts of this division. Whilst a finding that the respondent has not discharged the onus on her means that the appeal must succeed, the order to replace that granted by the court *a quo* must then turn on the issue as to whether the appellant's defence has been proved on a balance of probability. Proof in a civil case (of either a claim or a defence) turns on whether the probabilities are such as generate a conviction in the reasonable mind. (*Gates v Gates* 1939 AD 150 at 154-5.) "It is not a mere

conjecture or slight probability that will suffice. The probability must be of sufficient force to raise a reasonable presumption in favour of the party who relies on it.” (*West Rand Estates Ltd v New Zealand Insurance Co Ltd* 1925 AD 245.)

[43] Given the complexities of this case, a conclusion that neither party has managed to persuade the court on a balance of probabilities is hardly surprising. Neither case is without its flaws, and each falls short of generating a conviction that what is probable about it outweighs what is probable about the alternative version. I am unable to find the appellant’s case established on a balance of probability.

[44] The appellant has asked for costs, and no argument was raised before us to the effect that costs should not follow the result. I think that was an oversight. The learned judge *a quo* observed more than once that the care given to the respondent was substandard, a conclusion which this judgment endorses. The claim fails because the causal link between that and the ultimate unhappy outcome was not proved. The claim was not by any means frivolous. The respondent litigated in the interests of a minor child. She is unlikely to be in a position to meet an order of costs.

The following order is made.

**1. The appeal is upheld and the order of the court *a quo* is set aside.
There is no order as to the costs of the appeal.**

2. The order of the court *a quo* is replaced with the following order.

“The defendant is absolved from the instance. There is no order as to costs.”

OLSEN J

I agree

CHILI J

I agree

BEZUIDENHOUT J

Date of Hearing: Friday, 31 July 2020

Date of Judgment: THURSDAY, 21 JANUARY 2021

This judgment was handed down electronically by circulation to the parties' legal representatives by email and publication on SAFLII. The date and time for hand down is deemed to be on 21st January 2021.

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