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Cerebral Palsy: Medico-Legal Issues

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Abstract

In evaluating aspects of the current epidemic of Cerebral Palsy (CP) litigation, the article stresses the worrying incongruity between crippling insurance premiums vis-à-vis the controversial fact that only 10% of medical defendants are actually found liable of malpractice. Furthermore, while science increasingly stresses congenital, non- medically liable causation of CP, litigation is *increasing*. The article calls for wide-spectral reflection and system rectification.

In analysing the jurisprudential process in a typical CP trial, a mind-shift involving scrutiny of the antenatal care, besides the ubiquitous childbirth process, is proposed. For those Court cases (commonly) focusing on birth, desperately searching for liable fetal hypoxia/acidosis (statistically a minor but admittedly preventable causation of CP) with blinkered analysis of Electronic Fetal Monitoring(EFM) tracings, the article calls for a balanced and scientifically justified perspective. While it also throws light on several pitfalls plaguing EFM, inherent, attention is also drawn to the currently legally vulnerable situation of confirming fetal hypoxia/acidosis in the presence of non – reassuring CTG monitoring. The article evaluates the standard traditional but now evidence - challenged Fetal Blood Sampling versus more promising and modern methods such as ST Analysis (STAN) which, however, still lacks official recognition. A strong plea is made for use of updated EFM nomenclature as well as a universal EFM abnormality classification in CP litigation. A number of UK Court case laws are quoted to illustrate important jurisprudential arguments.

The article concludes with some points of advice both to individual medical practitioners and obstetric Units and calls for Collegiate and inter- Collegiate CTG advisory Committees and their liaison with representatives of the Judiciary and related bodies.

Keywords: Cerebral Palsy; Court litigation; Paradigm shift; I-PCTG; Way forward

Abbreviations

CP: Cerebral Palsy; EFM: Electronic Fetal Monitoring; CTG: Cardiotocography; I-P CTG: Intra-Partum Cardiotocography; FBS: Fetal Blood Sampling; SLE: Systemic Lupus Erythematosus; CMV: Cytomegalus Virus; FHR: Fetal Heart Rate; FIGO: International Federation of Gynecology and Obstetrics; NICE: National Institute for Health and Care Excellence; RCOG: Royal College of Obstetricians and Gynecologists; ACOG: American College of Obstetricians and Gynecologists; STAN: ST Analysis

Introduction

The fear of medico-legal litigation involving Cerebral Palsy (CP) is one which justifiably haunts modern obstetric practice. 73.6% of US obstetricians have faced litigation at some time - most often for alleged causation of fetal neurological impairment [1]. 60% of all obstetric malpractice insurance premiums cover birth management-related CP allegation [2]. We speak here of withering premiums - up to $200 000 per year in some states [3] - amounts which have deterred doctors from entering the speciality and encouraged numerous others to leave OBGYN or limit themselves to gynecology [4].

The logistics of the great monetary drain engendered by CP litigation is a great enigma. While an astronomical 60% of the insurance premiums are swallowed up by the legal processes, less than 1 in 10 of the plaintiffs is awarded compensation [2].

Medical negligence is proved in a mere 10 % of CP Court trials. We read much about those in the media yet, we hear nothing of the agony of the other 90% whose practice and family may have gone through the hell of a long soul destroying trial.

The unabating persistence of unwarranted CP litigation seems to imply a collective socio-medico-legal mind-set which apparently refutes the scientific fact that in the great majority of CP cases, fetal hypoxia is *not* the causative factor. In fact, quite paradoxically CP litigation is actually *increasing*. And, in keeping with outdated tenets, Court litigation often concentrates blindly on the birth management, searching for mismanaged fetal hypoxia and acidosis. So frantically concentrated is this search, that in a substantial number of cases, other facets of medical care – potentially more rewarding in the context - such as antenatal care, is disregarded or superficially examined.

Querying the Goal Posts

A paradigm shift in the psychology of CP litigation may both serve for justice to be imparted as well as well possibly contribute to limiting the ever spiralling harm of unjustified Court action. Such a shift would help plaintiff, defendant, their counsels and the

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judiciary appreciates better the nature of the elements constituting CP litigation. A fair disposition, especially not blinded by sheer greed is a pre-requisite. I stress here that to seek justified recompense is *not* blind greed or in fact, greed at all. What is fairly owed, must be paid

Yet it is within human nature to apportion blame to justify such a terrible adverse birth outcome such as CP. Medical malpractice, of course, *may* truly be the cause, but now we do know that the great majority of cases are due to inherent fetal brain anomalies. The outcome of a child with CP of a congenital origin, would have been the same wherever the birth took place and whoever assisted it. However, once the birth occurs within the four walls of a hospital, the end result attains the stamp of an adverse medical incident. The catalyst (and at times the major reagent) igniting the litigatory mechanism, not rarely, takes the form of a lawyer, from an aptly self – styled Birth Injury Legal Firm. *Some* of these lawyers, embodying the very soul of the original "ambulance chasers" may sprinkle the need to apportion blame with a healthy dose of promised massive potential financial remuneration. Parents of children with CP are vulnerable, hurt, confused and have suffered much by the time the trial commences. Their frustration may be easily and craftily diverged into both punishing the medical system, while securing whatever financial redress is possible, at times irrespective of the underlying pathology. And so, another link is forged into the one big chain of claims (some justifiable, many not) with its harmful domino effect on national budgets, individuals and medical practices.

In numerous cases of CP litigation, the Court may be misdirected enough into scrutinising the management of the childbirth stage of pregnancy, that it misses the wood for the trees. Such misdirection may take a number of forms such as that (discussed below) of *Gossland v East of England Strategic Health Authority* [5], in which evaluation of the Intra-Partum CTG (I-P CTG) tracing seems to have displaced other grossly more incumbent issues. Another aspect of Court misdirected scrutiny - intent on proving mismanaged fetal hypoxia in labour -often forgets antenatal care management completely. And since this article seeks an honest swing of the scales of justice, I will add that widening the jurisprudential goal posts to include careful antenatal care scrutiny may, be rewarded with evidence of liability where none exists in the traditionally scoured period of birth and its management.

Retrospective Antenatal Care Management Analysis in CP Litigation

Brown [6] challenges the justification of the very definition of CP which he compares to a "moving target" and is no more specific than 'anaemia'. Furthermore he states:

traditional divisions like asphyxia, prematurity and stroke are not good enough, requiring the pin- pointing of specific conditions.

Stating that a multimillion medico-legal plague about a condition which is currently non-definable is no small matter. So is the statement that traditional divisions like *asphyxia, prematurity and stroke* are not good enough, seeing that they are perennial conditions in daily use in CP litigation. With such limitations, one must think outside the box. Such as by scrutinising all that went into the pregnancy care, for it is not unusual for the adverse happenings of birth to have commenced during the preceding months of pregnancy.

Antenatal care analysis may reveal clear or subtle signs pointing to missed diagnoses of conditions like SLE, factor V Leiden, polycthaemia, thrombophilic disorders and autoimmune thrombocytopenia [7]. While Brown stresses awareness of these conditions in a purely therapeutic basis, the argument delivers a new potential slant to CP litigation. For, as legal medicine teaches us, among its pathways, the march of science, unfortunately, also leads to the Courtroom. And so it should, if justice to plaintiff and defendant is to see the light of day.

Antenatal scrutiny may not only reveal missed pathological conditions, which, if rare, might be somewhat understandable. It may shed a new slant on simple classical conditions like restricted growth. Taking the case of CP in a severely growth restricted baby; one may find an impeccable labour management, perfectly acceptable by peer standard and based on the latest official advice. Yet, antenatal review may reveal that the management of growth restriction was grossly botched for example through a missed clinical diagnosis for most of the duration of the pregnancy, absent or ignored ultra-sound scans…. Such important, new and justified evidence from the antenatal period may be completely blinkered out by concentrating purely on labour management.

Another example would be that of CP associated with severe maternal chorio-amnionitis. If all was done *secundum artem* on presentation in labour, the scales of justice may swing one way. However we are speaking of a different story if perusal of the antenatal records reveals that the patient's repeated complaints of abnormal vaginal wetness during pregnancy [8], were never given the least importance and assessed by inserting a cusco vaginal speculum to exclude a liquor amnii leak. The patient reassured and happy would return home to conjugal intercourse and just as liquor can track down through a tiny membrane leak so can pathogenic organisms find their way up to wreak slow and eventually fulminant intra- uterine infection.

A third scenario involves a case of preterm labour preceded by hydramnios which has been repeatedly missed in antenatal visits. Then, one day, the patient, instead of resting in a hospital bed goes off to the supermarket, where she lunges a 10kg pack of water, feels a twinge and is admitted in established premature labour at 29 weeks gestation. Birth management may be book - perfect and incur no justifiable liability but what about the expected level of care during the antenatal visits?

Fertile Antenatal Scenarios for Potential Allegation of CP Oriented Malpractice

The obstetrician must have a heightened awareness of an increased potential of subsequent litigation if CP develops in certain specific antenatal conditions. Without incurring paranoia, one should ensure that one's thoughts and management are documented while still fresh, for CP litigation may hit *decades* after the birth in question. Maintaining open lines of communication in addition to a genuine active interest in the child and offering help and advice where possible is a good thing firstly because these parents do need much moral and physical help and secondly because this *might* make them think twice before resorting to legal action. If an obstetrician with a conscience feels he *did* mismanage the case, his guilt may be channeled into material assistance, however camouflaged to avoid waving red flags.

Some of these conditions which may be associated with CP later on include:

- Low birthweight especially if below 1.5 kg.
- Prematurity especially before the 32nd week of pregnancy.
- Multiple births, particularly with an in – utero death of a co – twin.
- Assisted reproductive technology conceptions possibly associated with preterm delivery or multiple births or both.
- Antenatal infections such as chickenpox, rubella, CMV virus, bacterial infections associated with chorio – amnionitis.
- Severe and prolonged *fetal* jaundice such as that resulting from ABO or Rh sensitization. This may lead to brain damage including CP. Prolonged fetal exposure to elevated *maternal* serum bilirubin levels may not necessarily result in developmental or neurologic handicap of the fetus.. [10] .
- Maternal medical conditions of the pregnant mother such as ignored (or undiagnosed) thyroid dysfunction or uncontrolled epilepsy.

Some of these conditions like persistent severe fetal jaundice are obviously more likely to be associated with CP than others. The relationship of these conditions to CP may be truly causal as in uncontrolled, prolonged and repeated epileptic fits, it may be casual or, both the condition and the CP may be due to the same causal factor e.g. some cases of severe growth restriction and CP.

CP oriented legal argumentation, naturally may go down many tortuous and unexpected paths. Uncovering antenatal misdiagnosis or management malpractice may open one to liability but this liability is not automatically synonymous with CP causation. Such argumentation may become extremely complex and challenging. Take the case of CP in a twin whose co-twin had died in utero and delivery is not effected for a substantial amount of time after. The plaintiff may allege CP causation based on the argument that twin to twin transference of thromboplastin or thrombo-emboli from the dead fetus to the living twin led to cerebral damage [10] and this could have been prevented by an earlier delivery. Or, the defendant may allege partial exsanguination of the surviving fetus by blood loss into the low resistant circulation of the dead co-twin [11].

Plaintiff pleading may vary from those offering nothing but pure conjecture, to those with rather suggestive facts e.g. a severely anaemic twin whose co - twin died at 38 weeks gestation, when delivery could have been easily effected.

Childbirth under the Court Lens

This is the usual central focus of CP litigation with the search on for evidence of preventable or treatable fetal hypoxia and acidosis at some stage of labour. The plaintiff seeks to prove that he is within that 10% - 20 % where hypoxia may be shown as causative of CP [12], a fact which must include evidence of the presence of encephalopathy [13]. Invariably, this will entail the scrutiny of tracings of Electronic Fetal Monitoring in the form of Cardio-tocographic tracings. These may be both antenatal or intrapartum but more often than not it is the Intra-Partum CTG (I-P CTG) tracing which has the starring role.

To prove liability, the Court must firstly be convinced that evidence of intra-partum hypoxia was present, that the hypoxia was actively or passively mismanaged and that by not fulfilling his expected duty of care, the defendant subsequently caused the ensuing damage. Mismanagement may include ignoring or misdiagnosing the signs of intra-partum hypoxia, failing to act on them by shortening the labour process e.g. by C-section, taking the wrong action or even compounding the hypoxia e.g. by the use of syntocinon stimulation. Obviously, cases *do* exist where such liability *is* present and needless to say, many cases of gross mismanagement never reach the Courts while many others never even reach any level of complaint or litigation.

The preponderance of the evidence of intra – partum hypoxia produced in Court most often takes the form of I – P CTG tracings. Clinically introduced in the 1960's,. CTG monitoring has long been officially accepted as a useful tool of detecting fetal hypoxia/acidosis especially in high risk labour. However challenged this statement may be, and it certainly *can* be, the fact remains that there is no alternative to CTG monitoring to date. Using an I-P CTG monitor in labour and then ignoring/misinterpreting it, in the face of an ensuing case of CP, does pose serious defence problems. Especially so, when obvious ignorance of interpretation is coupled with unavailable/ unasked assistance from higher medical authorities. Gross deviation from accepted norms of managing generally accepted abnormal I-PCTG tracings, certainly contributes heavily to the 10% of practitioners found liable at law. Such action can never find either solace or support in the Obstetric Colleges' statements that EFM has no long-term benefits [14]. The Colleges themselves endorse the use of CTG monitoring even on a routine basis in high – risk situations. And before we lose ourselves in the pitfalls of I – P CTG as a science [15] and quote the "shifting sands of I-P CTG", I must stress that this term was never coined to excuse simple ignorance of interpretation. Far from it. And *most* I-P CTG proven liability is due to

a) inability to interpret FHR trace, b) inappropriate action, c) technical aspects and d) record keeping [16].

With this firmly in mind, let us look at some worrying cases of actual Court litigation centered on I-P CTG discussion.

Missing the Woods for the Trees?

One worrying aspect of I-P CTG centered argumentation in some CP trials, is a seeming blinkered myopia, rendering the tracing as the alpha and the omega of assessment of medical management. This aspect of scrutiny more often than not tends to work *against* the defendant but, here, I will quote one case where the opposite holds true.

In *Gossland v East of England Strategic Health Authority* [17], the defendant's name was cleared of malpractice after the Court concluded that:

.. the cardiotocograph trace was not such as to lead an obstetrician of ordinary competence to take the view that Omar had a 'complicated tachycardia' such as to make it imprudent to administer oxytocin or to make it mandatory to take a blood sample from Omar's scalp. The cardiotocograph trace showed a tachycardia aptly described by Mr MacKenzie as a 'moderate' one which could not properly be characterised as a complicated tachycardia. In Dr Emmerson's words

it was 'somewhat abnormal' but nevertheless 'a common occurrence'.

And on this basis the Court accepted the defendant's view that the plaintiff's CP had been caused by a spontaneous haemorrhagic infarction. No matter that this '*commonly occurring CTG showing moderate tachycardia*' came from a neonate [18] who, never mind the CTG,

Was abnormally large at 5.22kg at birth.

Underwent a rotational forceps with alleged excessive force.

Suffered shoulder dystocia, and subsequently.

Suffered a fractured clavicle.

To be fair, it is my belief that it was partly the plaintiff's counsel which seems to have whittled argumentation as to whether an FBS should have been performed. Although space limits discussion, whether to take or not to take a blood sample in this case was a relatively minor point to plead for jurisprudential consideration. When massively more serious and significant issues were involved, plaintiff's defence could have had a field day challenging management on numerous other fronts. Instead, I-P CTG issues misdirected the case by being pushed onto the limelight.

I-P CTG as it Currently Stands – Wisely Making the Most of What is Available

Firstly, I accept the argumentation of I-P CTG detractors when they remind us that its clinical use has not diminished the overall prevalence of CP which has remained stable in the past 40 years at 2–3·5 cases per 1000 livebirths [19]. The much expected diminution in CP incidence through early detection and rectification of intra-partum hypoxia through the use of CT never came to pass. Maybe this is hardly surprising now we know that intra-partum hypoxia underlies the great *minority* of CP cases. Although, I am an eager exponent of extreme caution and balanced judgement in the use of medico-legal I-P CTG litigation [20], I am *not* prepared to label I-P CTG as "junk science" [21]. Wise and reflective clinical response to non-reassuring I-P CTG tracings can and does save fetal lives. Quoting one example, in one series of 3600 deliveries at the Middlesex Northwick Park Hospital (UK) between 1996 and 2000, 22% of the management care problems were directly attributed to CTG misinterpretation [22]. Nonetheless I have elsewhere strongly warned about the unquestioned and pressing need to stress extreme Court vigilance in I-P CTG interpretation with its inherent "Shifting Sands Phenomenon" [23].

I do not agree with the call to throw out EFM monitors as advised by Sartwelle et al [24], yet I also believe that it would behove us all well not to close our ears to some of the argumentation put forward by them. The future, I believe lies in *augmented* I-PCTG detection of true fetal hypoxia/acidosis as distinguished from simple individual and subjective assessment of I-P CTG abnormalities. And yet, there are many issues which, if justice is truly being sought, can be remedied *now* when people's destiny hangs on a Court accepted interpretation of I-P CTG tracings as we speak. I will re-emphasize some of these points which I have discussed in detail elsewhere:

I correct and updated nomenclature

The need to use correct and updated I-P CTG nomenclature is obvious or should be obvious. How could anyone rest assured that justice *is* operative when the ante-diluvian Type I and II dips (officially dropped in 1967) are still quoted in Court? One example out of many: In *Bruce v Kaye* [25] we find:

He arrived at 11.35pm. Inter alia, he found Ms Chevelle six centimetres dilated and read the FSE trace as type 2 decelerations with variable dips.

This was in 2004 – a good 37 years after the original Caldeyrio-Barcia classification had been discarded.

II A universally accepted classification of CTG abnormalities

There is a need for the Court to functionally recognise both the confusion as well as the shortcomings of the absence of one, truly functional and universal classification of CTG abnormalities.

In *Brodie McCoy v East Midlands Strategic Health Authority* [26], the Court itself , clearly and justifiably brings out the "internal inconsistency" of one such classification :

… reference was made to the 1987 FIGO Guidelines for interpreting CTG traces. Mr Porter pointed out that there was an apparent internal inconsistency in the FIGO classification of decelerations in antepartum CTGs, as these state that the "absence of decelerations except for sporadic, mild decelerations of very short duration" is consistent with a normal fetal heart pattern; but "sporadic decelerations of any type unless severe" are part of the definition of "suspicious" fetal heart patterns. Thus in cases such as this, where decelerations are difficult to identify, it is not obvious whether a CTG should be classified as normal or "suspicious".

While the quote refers to antenatal and not intra-partum monitoring, the point is still made.

There exists a "*considerable variation in the classification of CTG patterns* [27]."

This is no airy-fairy drawback. Clinical management hinges on diagnosis and diagnosis hinges on the guidance of formal classification. Otherwise where *is* the science ? Another aspect of "shifting sands". Unfortunately shifting sands and science are incompatible. Are some plaintiffs and/or defendants being exposed to major, life - altering jurisprudential decisions based on an investigation which at times blurs into non – science?

Few people challenge established practices when the going is good. Who questions I P– CTG science and its medico – legal echoes when babies are born alive and healthy? A high price may have been paid such as an unnecessary C -Section on a misinterpreted I-P CTG, but who goes to Court when baby is well? But, questions *are* asked when the wall cracks take a different course. Then, let battle commence. And so on until the next case. We must reflect and correct *now*.

If we look at *Ludwig (by her mother & litigation friend Della Louise Ludwig) v Oxford Radcliffe Hospitals NHS Trust and* another [28] the Court quotes the NICE CTG guidelines:

In cases where the CTG falls into the suspicious category, conservative measures should be used. In cases where the CTG falls into the pathological category, conservative measures should be used and fetal blood sampling is undertaken where appropriate/feasible.

Simple, clean and very straight forward, at least as quoted. But the crux of the problem is that what is suspicious for one may be pathological for another. In this context, let us re-visit an important and key principle of medical jurisprudence – the Bolam test, emanating from the pace-setting 1957 now classical UK case - *Bolam v. Friern Hospital Management Committee* [29]:

The Court held that there is no breach of standard of care if a responsible body of similar professionals supports the practice judged even if this did not comply with the established standard of care.

Now, I ask the question as to what is to be concluded if in a CP Court trial for alleged malpractice, one responsible body of peers supports one classification and another supports an equally valid one? In fact, matters may become so complex that within one body of responsible professionals choosing the same classification, there may still be wide discordance of interpretation in view of the well - known high intra – and inter- observer error rate of interpretation. To this add the existent lack of a universally accepted classification of CTG abnormalities – as indeed is the case - and chaos, realised or unrealised by the parties involved, may ensue.

It is extremely disconcerting that Court opinions may be influenced (either way) by I-P CTG analysis in the absence of *internationally agreed practice recommendations* [30]. Action is needed now to rectify the p*oor standardisation in the interpretation of CTGs and disagreement about appropriate interventions"* [31].

However, in spite of all exhortations, with feet well planted on the ground, I fully agree with Sholapurkar's prophecy that I-P CTG "*can be expected to remain contentious for some time to come and NICE draft guidance may have missed significant fundamental improvements* [32]."

The calls to amend have been numerous and repeated. Yet we seem no closer to a solution today than when in 2004, the Joint Commission for Preventing Infant Death and Injury During Delivery urged action for:

the urgent need to develop clear guidelines for fetal monitoring of potential high-risk patients including protocols for the interpretation of fetal heart rate tracings and to educate nurses, resident physicians, nurse midwives and attending physicians to use standard terminology to communicate abnormal fetal heart rate tracings [33].

III Inherent problems of I-P CTG monitoring

As already sporadically referred to, I-PCTG interpretation does exhibit worrying features including:

(a) high specificity but low sensitivity, as well as

(b) high intra- and inter-observer errors.

I have chosen these two groups out of the many on the basis that both may be potentially "resolved" by a second investigation, which, though time honoured, is, now itself in a current sea of controversy. I refer to Fetal Blood Sampling (FBS).

(a) Sensitivity may be as low as 99.8%, with *only 0.19% of abnormal CTG tracings* being (truly) *associated with moderate or severe cerebral palsy* [34]. Taking a scenario where the I-P CTG tracing is as bad as it can get, with absent baseline variability, late decelerations ….true fetal hypoxaemia and acidosis will only be present in 50–60% of cases. The rest of the cases would undergo an unnecessary C-section if the practitioner, resting solely on the non-reassuring I-P CTG tracing, proceeds to prevent "fetal distress" [35]. Traditionally, FBS was employed to distinguish which non -reassuring CTG was showing true fetal hypoxia and acidosis. More about FBS in the next section.

(b) *There is a vast degree of inter-observer and intra-observer variation in pattern recognition* [36].

In other words, experts may disagree between themselves on a tracing but even far worse, the same expert may disagree with himself at different times. There are times, and this is one such, when I more than sympathise with Sartwelle's [37] most valid comment of what would a Daubert Court make of CTG. I make absolutely no apologies for not abandoning I-P CTG, but medico-legally one must accept that the subject may be frighteningly controversial the deeper one delves in it.

Knowing which interpretation of I-P CTG is correct in (b), may also be resolved (to some practical extent) by FBS which thus may help both (a) and (b). That statement may have held water yesteryear. And even then it required qualification. For

…it must be recognized that FBS is a 'snapshot' test and is not useful if hypoxia evolves rapidly during second stage of labour because the values may not represent the actual fetal condition [38].

This problem may be partly offset by repeating FBS as necessary. However, the real current problem with FBS is now much deeper than that, for it has not withstood the scrutiny of modern evidence based practice. Evidence based publications do not recommend the use of FBS during second stage of labour [38]. And in a Court of Law, the plaintiff's counsel, waving publications such as those of East et al [39] and Alfirevic et al [40] in one hand, while pointing to the plaintiff in a wheel - chair with the other, would quickly make short shrift of the defendant's FBS results and their worth.

That is the end of that. Or is it?

Well, life would be easy if it were. Two other factors have to be taken in full consideration at this juncture:

(1) FBS is still officially recommended by NICE guidelines as well as the Obstetric Colleges such as RCOG and RCPI. This is, of course, fully understandable. However, until final advice is imparted by these august bodies, the man on the spot grappling with the question "Is it or is it not a genuine case of fetal hypoxia?" is in a worrying, no man's land situation. To date, official advice still includes FBS. Evidence based practice says otherwise.

(2) There are other investigations on the horizon which may offer better answers than FBS. One of the most promising is STAN (ST analysis of the fetal electrocardiogram). Abandoning FBS for STAN *may* be the future. A number of UK units are in fact already using it. Early studies questioned STAN's ability to detect fetal metabolic acidosis but Oloffson et al [41] in 2014, after correcting errors in five previous meta-analyses, *did* find that the use of CTG + ST Analysis significantly reduced fetal metabolic acidosis [42]. Again the Colleges have not declared about STAN yet.

Let us look at the problem from the eyes of the Court. In imparting medico-legal pearls of wisdom, to my students, I often remind them that evidence based medicine takes time to seep into *medical* minds and change practice. When it comes to the law Courts, it takes even longer.

In *Milkhu v North West Hospitals NHS Trust* [43], lack of performance of FBS led to a ruling against the defendant:

For the reasons given above, I find that if fetal blood samples had been taken at 22.00 and 23.00 when they should have been, Gurpuran would have been delivered by immediate caesarian section and would have escaped the brain damage he suffered in the 15 minutes that preceded his delivery. It follows that the Defendant is liable for that damage.

I hear a voice ask: But does not that case date back to 2003? Well, 2003 is not exactly medieval in terms of the Law. But, fair enough. Let us look at a case from 2013 when FBS had been clinically undermined for quite some time.

In *Chappell v Newcastle upon Tyne Hospitals NHS Foundation Trust* [44], we find that among the facts upon which the Court's ruling rested, in favour of the defendant, was in fact the performance of FBS and on a repeated basis as good practice traditionally always taught.

Taken together, all these factors lead me to conclude, on the balance of probabilities, and, notwithstanding the absence of any documented evidence of hypotension after birth, that the cause of the injury sustained by Callum was infection and not hypoxia.

The moral of these stories is far from reassuring. It may be the scientifically 'in thing' to state that FBS is clinically passé. Medico-legally, I believe that prudence is the watchword. Especially until new methods such as STAN obtain NICE/RCOG formal blessing. And even then, individual jurisprudence may not be au courant or be misled by "experts" especially "experts" who are still bandying about pre-1967 nomenclature. The present moment, unfortunately, places confirmation of fetal hypoxia and acidosis, right at the cross-roads of obstetric science evaluation. The medico-legal cross-roads are likely to come later. In the meantime, the burning question remains: In a CP trial, will the venerable Court favour the latest evidence based practice or bow to the time honoured and still officially recognised FBS?

Conclusion – The Way Forward

As a lifelong practicing OBGYN specialist, my advice to young obstetricians engaged in the beautiful arena of childbirth is to foster a conscientious and level headed practice which maintains at all times love for fellow man. The modern medical practice must be as safe, scientific, peer acceptable and honed to be delivered humanely [7], as possible. I recommend a holistic attitude to patients rather than defensive medicine and I also exhort regular Unit forums to evaluate medico-legal soundness of practice under its aegis [7]. This may reveal many unexpected worrying practices with great medico-legal vulnerability, both individually as well as collectively. It is so much better to clean your house yourself, than have it cleaned for him youby others – and at what a cost.

Like the biblical poor, Cerebral Palsy will always be with us. Every pregnancy is precious and must be handled as such both in its antenatal course and at the time of greatest challenge, the birth process. Good practice must be accompanied by brief but precise clinical note keeping. And one must remember to crown one's good practice by good and honest communication which may be one step in diminishing litigation [7].

All developed countries with established National Health systems should collect relevant data and reflect hard on the CP medico-legal litigation in their own particular milieu with a view to diminish or eliminate *unfair* Court action prior to its commencement. This is no simple task and will require acceptable and formal legal watersheds for fair screening and subsequent recommendations. The nature of future CP litigation should evolve pari passu with developing scientific knowledge. Because the world is as it is, such ideal evolution will encounter various objections at various stages from various interested parties. An honest, enlightened authority which truly seeks justice for the patient, the doctor and society, must overcome these.

The Courts and medical and legal parties involved with I-P CTG centred litigation must come to realise, accept and truly understand the many inherent or man - made pitfalls beleaguering the subject. Formal courses would be in everybody's interest.

However, I believe that true progress in this crucial field of CP litigation lies in a major paradigm shift involving liaison between the legal system and the Obstetric Colleges via permanent medico-legal Committees which report back to their mother College or legal Chamber.

The Colleges themselves, at least until the subject stands firmly on its own feet, may offer much help to the present situation by setting up Collegiate CTG Advisory Committees the duties of which would include:

Fostering and regular updating and evaluation of EFM research.

Impact analysis awareness of EFM pitfalls (such as "the shifting sands phenomenon") on medical, medico-legal practice and jurisprudential bodies.

Advice to Courts, when asked, in particularly challenging cases.

Inter -Collegiate sharing of data, advice and statistics.

Using its links to FIGO and inter-Collegiate bridges to foster harmonisation of nomenclature and a universal classification of CTG interpretation.

Any society which condones the present status quo of a medico-legal system where, year after year, the great preponderance of arraigned doctors are cleared of CP alleged malpractice at astronomical and harmful (except to some) costs, needs to have its motives radically analysed. National Health budgets and practices are suffering, eventually exonerated doctors have their lives and practices in tatters after long trials, medical premiums keep escalating, doctors leave or do not enter OBGYN, while only a small minority of plaintiff CP sufferers have their claims accepted by the Court. Who is truly benefitting from all of this? Doctors certainly do not, a *few* patients do, but it is basically the 'system' which continually gobbles up the millions. Was the legal system created for man or was man created to sacrifice on this new vengeful altar?

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