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The Medical, Legal and Jurisprudential Incumbency of Hypoxic Ischaemic Encephalopathy

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We have elsewhere made strong reference to the five-decade period of medical, legal and jurisprudential misdirection commencing in the USA in the 1950's in the clinical establishment of cerebral palsy causation. Often referred to as the Great Myth, that inglorious episode as led to much unmentioned suffering and many unsung victims in many countries as sequelae in the investigation of alleged obstetric negligence.

The firm establishment of the concept of hypoxic ischaemic encephalopathy (HIE) was one step in the correct establishment of the causation of cerebral palsy and its implications. At this juncture it must be reminded that cerebral palsy of the new-born is in its vast majority *not* due to hypoxic cerebral damage. Furthermore, the minimal number of cases (14.5%) where cerebral palsy *is* the result of intrapartum hypoxic brain damage must be preceded by HIE of the new-born. The significance of this statement is inestimable in reviewing the possible causation of cerebral palsy.

Having established the central importance of HIE at both clinical and litigatory levels, it is crucial to remind that the establishment of the diagnosis of HIE has been controversial at best and utterly confusing at worst. This has had major multiplier inferences and one can clearly see that a diagnosis which is scientifically controversial presents *ab initio* an *ipso facto* weak argumentative link, both clinically and jurisprudentially.

In 2003, the American College of Obstetricians and Gynecologists (ACOG) in conjunction with the American Academy of Pediatrics (AAP) published firm criteria for diagnosing HIE. A second report in 2014, enriched the first with further views on the subject. Here therefore, one would assume, is the end of this aspect of throwing light on the possible causation of cerebral palsy from episode(s) of hypoxia in labour. Unfortunately, few topics in medicine have such happy fairy tale endings.

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This editorial is concerned with one seriously worrying aspect of establishing the diagnosis of HIE. Without going into specific details, one must understand that the diagnosis of HIE requires a number of facts and scientific data:

- The establishment of the diagnosis of encephalopathy in an infant of not less than 34 weeks gestational age
- Apgar scores
- PH and base deficit of the child's venous blood at birth
- The exclusion of identifiable causes such as coagulopathy, infections, etc;
- The detection of any multi-system hypoxic involvement of the new-born
- Pediatric neuro-imaging results showing acute, non-focal cerebral lesions

The four main pillars of diagnosis are

The establishment of early onset moderate to severe encephalopathy in a new-born of over 34 weeks maturity

- The establishment of metabolic acidosis (pH below 7 mmol/L and base deficit of ≥ 12 mmol/L)
- The establishment of quadriplegia/dsykinetic cerebral palsy
- The exclusion of identifiable causes of the clinical picture
- However, all other parameters are crucial in establishing the *chronological* sequence which in a Court of law may make or break a case

With this ideal list in mind, one must remember that even today in the 21st century, even in "good" obstetric units, it is by no means rare to be presented with no more than an Apgar score and the ubiquitous intrapartum cardiotocographic tracing even in legally contentious cases. A unit might be excused for not presenting radiological paediatric neuro-imagery results if lacking radiological equipment although regional referral is normally always feasible.

It is time for any individual or obstetric unit facing Court as plaintiff (s) in a case of alleged obstetric (or other) negligence and failing to produce the requisite information to face censure on this aspect. This will become clearer as the role of HIE becomes clearer and the requisite criteria to establish it become ever more indispensable. It is far too easy to disable modern jurisprudential reasoning as it assimilates modern scientific methodology and concepts by claiming absence of the requisite artefacts. There are a number of corrective measures such as obstetric/pediatric personnel education and hospital administrative attitudes. A firm and decisive measure, which we recommend is the Court adoption of a default non-tolerant stance to the lack of availability of the requisite clinical and laboratory results.