Wrongful diagnosis of child abuse—a master theory

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'Please, if there is any way you could help with our situation, by yourself or anyone you know, could you please get in touch. We can honestly say, hand on heart, we haven't done anything to hurt our baby. We are now been [sic] assessed and we got told [sic] that when we go to the finding of facts hearing and we still insist we haven't done anything, our twins will go up for adoption.'—*Letter from parent*

'For me, the unusual feature is death so soon after being seen well, the fact that there have been previous deaths in the family and the fact that he had had an episode of some sort only nine days before he died that caused him to be assessed in hospital, because those features are ones that are found really quite commonly in children who have been smothered by their mothers. So the diagnosis for me, the clinical diagnosis, would be this was characteristic of smothering.'—*Testimony of Professor Sir Roy Meadow, R v Cannings, March 2002*

The authority of medicine derives from its science base, so it would be reasonable to assume that doctors when called on to give their expert opinion in court would have a thorough balanced grasp of the relevant scientific evidence. The successful appeals of Sally Clark and Angela Cannings against their convictions for child murder would suggest otherwise, as does the recent ruling of the Attorney General that a further twenty-eight cases of parents convicted of smothering or shaking their children are 'potentially unsafe'.[1] Nor can that be all, for the Attorney General's review was restricted to the Criminal Courts and thus does not take into account the several hundred cases a year heard in the Family Courts whose less stringent standards of proof ('balance of probability' rather than 'beyond reasonable doubt') would further increase the risk of unsafe convictions. Thus the medical advocacy of contentious theories of the mechanisms of child abuse is likely to have been responsible for a systematic miscarriage of justice on a scale without precedent in British legal history—with devastating consequences for the parents wrongly convicted. Here I offer a 'master theory' to explain how this extraordinary situation has come about.

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THE HIDDEN EPIDEMIC OF CHILD ABUSE

Since Kempe's description of the 'battered-child syndrome' in 1962, paediatricians have become only too familiar with the burns, bruises, fractures and neglect of the child victim of abusive physical assault.[2] The current concerns about the wrongful diagnosis of child abuse, however, centre on a trio of very different clinical situations whose defining characteristic might be described rather as one of uncertainty or ambiguity.

- *Sudden infant death syndrome*—SIDS remains much the commonest cause of unexpected death in childhood, whose primary aetiology, despite much research, has proved elusive
- *Childhood injuries*—children are by nature accident-prone but sometimes the severity of their injuries might seem disproportionate to the explanation provided
- *Medically unexplained symptoms*—all doctors have patients whose signs and symptoms are difficult to explain.

Doctors are no different from anyone else in being reluctant to admit they 'do not know'. Why, for example, might SIDS affect two or more children in the same family, or how might a seemingly trivial accident cause an acute intracranial injury? Some might thus be unduly susceptible to the notion that the uncertainties arise not from their lack of knowledge or clinical skills but from parental concealment—that each of these ambiguous clinical situations is potentially a form of hidden or covert abuse inflicted by parents in such a way as to hide their intentions from external scrutiny. Further, these clinically ambiguous situations are not uncommon, which would suggest that child abuse is both more prevalent than is widely appreciated and perpetrated by even the most apparently respectable of parents. Paediatricians clearly have a major responsibility in identifying these concealed forms of abuse if they are to protect children from further injury or death.

THE EVIDENCE FOR A HIDDEN EPIDEMIC OF CHILD ABUSE

The proposition that there might be a hidden epidemic of abusive injury of children emerged in the 1980s with the description by British paediatricians of two covert forms of child abuse—factitious illness and smothering. Roy Meadow, in his pioneering paper on *Munchausen's syndrome*

by proxy,[3] described two cases illustrating a phenomenon, familiar now but puzzling at the time, where mothers sought the sympathy of doctors and nursing staff by fabricating the symptoms of a perplexing illness in their child that warranted repeated hospital admissions and investigative procedures. In the first case the mother contaminated her six-year-old daughter's urine specimens to simulate recurrent urinary tract infections, while in the second the mother fed her six-week-old son high doses of salt, causing him to be admitted to hospital several times with 'unexplained' hypernatraemia. Four years later Meadow reported a further series of nineteen cases in which 'fraudulent clinical histories and fabricated signs' encompassed the entire spectrum of paediatric illness—bleeding from every orifice, neurological symptoms of drowsiness, seizures and unsteadiness, rashes, glycosuria, fevers and 'biochemical chaos'.[4]

The implications of Munchausen's syndrome by proxy were twofold: it alerted doctors to the possibility of fabricated illness as a potential differential diagnosis in children with unexplained symptoms. But it also demonstrated how the seemingly most devoted of parents might, in reality, be potential child abusers. Meadow himself, commenting on the mothers in the cases he described, observed how they were 'very pleasant to deal with, cooperative and appreciative of good medical care.'

David Southall's innovative technique of *covert video-surveillance* for investigating apnoeic episodes in children vividly confirmed the sinister reality of hidden abuse.[5,6] Now paediatricians attending meetings and conferences could see for themselves the blurry black and white images of mothers caught in the act of smothering or choking their babies. Southall's study widened the spectrum of child abuse in two significant directions. It offered, in smothering, a plausible explanation for why a child might experience recurrent acute life-threatening events necessitating urgent admission to hospital. And it emphasized, once again, the possibility that some at least of those children whose deaths were labelled as SIDS might have been the victims of smothering. Southall in a further report of thirty children undergoing covert videosurveillance identified twelve siblings who had died unexpectedly, eight of whom the parents subsequently confessed to having smothered. Thus parental smothering must be a clear possibility in any child with recurrent acute life-threatening events where there has been more than one unexplained childhood death in the family.[7]

THE HIDDEN EPIDEMIC REVEALED

There could be no doubt following Meadow and Southall's findings that paediatricians must have been missing a substantial number of cases of child abuse and would in future need to be much more alert to the possibility of parental harm where the diagnosis was not clear.[8] Frequently, however, such suspicions could not be confirmed with the sort of direct evidence provided by techniques such as covert videosurveillance. So how could doctors be confident that covert abuse was the cause—and convince others to take the necessary steps to protect the child from further danger?

Significantly there were certain similarities in the signs and symptoms of children with these clinically ambiguous situations and those recorded in well authenticated forms of abuse such as smothering, poisoning and abusive head injury. Thus it seemed reasonable to infer, by extrapolation, that these presentations were 'characteristic' of covert forms of abuse which could then be confidently diagnosed—even in the absence of any other circumstantial evidence such as bruises, signs of neglect or parental history of violence. During the 1980s the trio of clinically ambiguous situations would become redesignated as 'child abuse syndromes'. A key influence was '*Meadow's rule*' regarding SIDS. While the absence of reliable pathological findings made it difficult to distinguish SIDS from smothering, Meadow argued that two or more childhood deaths in the same family, along with a recognizable 'pattern' of events (such as previous acute life-threatening episodes) was strongly suggestive of infanticide: 'two is suspicious and three murder unless proved otherwise . . .'.[9–11] Another was the proposal that two specific presentations of childhood injury were 'characteristic' of abusive assault. Caffey's original description of shaken baby syndrome suggested that the whiplash effect of vigorous shaking offered a 'reasonable explanation' for the presence of *subdural and retinal haemorrhages* in severely abused children.[12] The imagery of how the violent to-and-fro movement of the baby's head could cause bleeding of the vessels of the eye and brain proved very persuasive and it seemed logical to infer that *any* child presenting with retinal and subdural haemorrhages must have been shaken—despite the absence of other circumstantial evidence of abuse.[13–15] Similarly, Caffey attributed a radiological '*bucket handle*' appearance of the metaphyses of the long bones in severely abused children as being due to a 'twisting and wrenching' of the child's limbs by the parents.[16] Subsequently, it was suggested that those children in whom abuse was suspected should have a skeletal survey for similar 'suspicious' metaphyseal lesions that were interpreted as being characteristic of abusive assault—again, despite the absence of clinical signs of fracture or subsequent radiological evidence of healing.[17,18] A third was a widened case definition for Munchausen's syndrome by proxy. Meadow, in his initial series, had confirmed the diagnosis either by covert surveillance or by confronting the perpetrator and obtaining a confession. In

a widened definition the presence of 'diagnostic pointers' was proposed for use in children with medically unexplained symptoms. They included:

- Parents unusually calm for the severity of illness
- Parents unusually knowledgeable about the illness
- Parents fitting in contentedly with ward life and attention from staff
- Symptoms and signs inconsistent with known pathophysiology
- Treatments ineffective or poorly tolerated.[19,20]

THE HIDDEN EPIDEMIC CONFIRMED

These novel child abuse syndromes, taken together, represented a major conceptual breakthrough in paediatrics. The uncertainty of clinically ambiguous situations had given place to the certainty of the single unifying and plausible diagnosis of covert abuse. The scale of the hidden epidemic then turned out to be substantially greater than had been expected, with a fourfold increase in the number of child abuse cases in the ten years from 1978 to 1988. This was reflected regionally in an increase from 40 to over 200 cases a year in the City of Leeds while, by the end of the decade, an extra 7500 children every year were being placed on the child protection register on the grounds of physical abuse.[21–23]

Nonetheless, the facility with which the syndromes could bring to light covert abuse concealed from view their poor evidential basis. The causal link between the putative mechanism of assault and subsequent injury could be neither independently confirmed nor experimentally investigated. It might seem reasonable to extrapolate from the presence of retinal and subdural haemorrhages in the battered child that these features had the same significance in a child with no other circumstantial evidence of injury. Certainly the powerful imagery of violent shearing forces disrupting the blood vessels was persuasive, but shaking has never been directly observed or proven to cause such injuries; the supposition that they do is based on (contested) theories of biomechanics.[24]

Rather, the legitimacy of the syndromes was predicted on two related and highly improbable assumptions, scientific and legal. The *scientific* assumption was that there could be no other explanation, either known or that might be discovered at some time in the future, that might explain these 'characteristic' presentations. Meadow's 'rule', for example, precluded the possibility that there might be some unknown genetic explanation for multiple unexpected childhood deaths in the same family, while the 'characteristic' pattern of shaken baby syndrome precluded the possibility of some alternative explanation for the retinal and subdural haemorrhages—such as an acute increase in retinal venous pressure from intracranial bleeding caused by accidental head injury.[25] The *legal* assumption presupposed that these presentations were so specific for abuse that they were by themselves sufficient to secure a conviction—even in the absence of the sort of circumstantial evidence of violence or neglect that would normally be required to return a guilty verdict in a court of law.

Put another way, the 'characteristic' presentations of the syndromes could not sustain the interpretation placed upon them: they might be 'consistent with' but could not, by themselves, be 'diagnostic of' child abuse. Thus some at least of the parents contributing to the statistics of the fourfold rise in child abuse were likely to be innocent. Three additional factors, in particular, bolstered the credibility of the syndromes in the Family and Criminal Courts.

The authority of the child abuse expert

By the close of the 1980s, the leading experts in child abuse had acquired an international reputation and were thus called on to instruct and educate not just their fellow paediatricians but also the police, lawyers, social workers and judges in the child abuse syndromes. Their persuasive expert opinion, when expressed in court, was guaranteed a sympathetic hearing, while their confidence in the syndromes they had discovered was virtually unchallengeable. Further, they could scarcely accept the force of contrary evidence since to do so would require them to concede that their expert testimonies might, in similar cases, have resulted in wrongful conviction. Meanwhile the costs of the process of investigating allegations arising out of the child abuse syndromes rose to an estimated £1 billion per year, with the more prominent experts receiving fees for the preparation of their reports and appearances in court in excess of £100 000 a year.[26]

The circular argument of successful convictions

The validity of the child abuse syndromes would appear to be confirmed by the high proportion of successful convictions that followed the courts' careful scrutiny of the allegations against parents. These convictions, however, came to rely increasingly on a circular argument—whereby the main evidence for the child abuse syndrome of which the parents were accused was that parents had been convicted of it in the past. Thus parents whose child presents with subdural and retinal haemorrhages are accused of inflicting shaken baby syndrome because, in the vast majority of cases, parents of children with subdural and retinal haemorrhages are convicted of causing shaken baby syndrome.[27] Similarly, Meadow argued that 'the likelihood that the court verdicts about parental

responsibility for [causing their children's death] were correct was very high indeed', without making clear that it was his expert testimony that repetitive SIDS was 'murder unless proved otherwise' that had been a major factor in securing those convictions.[10]

There is a further element of circularity in the presumed pathogenesis of the syndrome of which the parents are accused. The theory of shaken baby syndrome presupposes that violent, abusive force (comparable, it is claimed, to that sustained in a high-speed road traffic accident or a fall from a second storey window) is necessary to cause retinal and subdural haemorrhages. The parents are then caught in the catch-22 of either confessing to the alleged assault (for which they might be offered the inducement 'if you say you did it we will let you have your child back') or denying it, in which case their denial is evidence they must be lying about the events surrounding their child's injury, which is then further evidence of their guilt.[28]

The silencing of parents

The forces of expertise ranged against the parents were formidable enough, but it is apparent too from their personal accounts that they were subjected to a series of intimidatory tactics to silence their protestations of innocence and deny the validity of their testimony as the only witnesses of the circumstances surrounding their child's injury or death.[29,30] Thus parents describe how, when summoned to see the consultant to learn (they presume) about their child's progress, they were 'ambushed' with the diagnosis of, for example, shaken baby syndrome, presented to them as irrefutable fact ('your son must have been violently shaken for several minutes to cause these injuries') without any suggestion that there could be some alternative explanation.

The prompt involvement of the police and social workers would lead to further accusatory interrogations that begin from the principle that the parents must be guilty—as the doctors would not have made such serious accusations if they were not convinced they were true. The transcript of these interrogations would subsequently be turned against them in court so that any inconsistencies in their explanations of how their child's injuries might have occurred were then presented as evidence of their efforts to conceal their guilt.[31] Parents describe the same pattern of events where they would only be informed late on a Friday evening that a preliminary court hearing had been arranged for the following Monday morning—thus leaving them the weekend to find a lawyer (who was unlikely to have any expertise in this field) to contest their child being taken into foster care.[32]

These psychological tactics were a prelude to the yet more powerful intimidatory weapon of technical obscurantism—the description of their child's injuries and couching of the charges against them in a language in which the professionals were fluent but the bewildered parents were not. How could they hope to dispute the allegations when they did not know what was being talked about? Parents are of course entitled to seek their own expert opinion, but soon discovered that the overwhelming consensus about the validity of the child abuse syndromes meant it was very difficult to find anyone to argue in their defence; or worse, the expert reports they requested were actively detrimental to their case.[33]

This silencing of parents was made more effective still by the rules of confidentiality that wrap the proceedings of the Family Courts in a cocoon of secrecy, making parents liable to a charge of contempt of court if they sought advice or support from anyone not directly involved in their case. This secrecy in turn protected the proceedings of the court, and in particular the testimony of expert witnesses, from external scrutiny while concealing from public view the spectacle of so many apparently respectable parents being convicted of inflicting these terrible injuries on their children—without any circumstantial evidence that they had done so.

THE UNMASKING OF THE CHILD ABUSE SYNDROMES AND THE CRISIS FOR PAEDIATRICS

For parents there was no escaping their fate. From the moment of the initial allegation against them, the alliance of medical experts, police, social workers and an unsympathetic judiciary—well organized, experienced and well financed—meant that their eventual conviction was almost a foregone conclusion. Nonetheless, the two assumptions, scientific and legal, of the specificity of the syndromes as being diagnostic of abuse remained as insecure as ever, with the courts' willingness to convict parents in the absence of circumstantial evidence of abuse resting almost entirely on their faith in the reliability and trustworthiness of medical expert opinion. The first sign that such faith might be misplaced came in 2003 during Sally Clark's successful appeal, with the revelation of 'fundamental errors' in the testimony of Meadow and other prominent experts that had resulted in her original conviction.[34–36] Their credibility was further undermined by Justice Judge's Appeal Court ruling exonerating Angela Cannings of murdering her two children.[37] Justice Judge dismissed the central plank of the prosecution case, Meadow's claim that there had been a 'pattern of events' leading up to the deaths of children that was 'characteristic' of smothering: 'We doubt the aptness of the description ''pattern'' . . . the history of each child was different from every other child.' Further research would refute Meadow's claim (as reflected in his 'rule') that recurrent SIDS in the same family was 'extremely rare'—in

other words, that in such cases the cause was likely to be unnatural. On the contrary, a follow-up study of SIDS families found two or more deaths in the same family to be 'not uncommon' with the overwhelming majority (80–90%) due to natural causes.[38] There are, it has subsequently emerged, several genetic mechanisms that could account for recurrent SIDS including congenital visceroautonomic dysfunction and cardiac dysrhythmias.[39,40]

Similarly, further research has undermined the validity of retinal and subdural haemorrhages as being characteristic of shaken baby syndrome, with an evidence-based review finding 'serious data gaps, flaws of logic and inconsistency of case definition' in the relevant scientific work.[41] Shaken baby syndrome was not, as its name implied, a 'syndrome' but rather encompassed several different forms of brain injury, with different clinical history and neuropathology, involving some mechanism other than shaking to account for the presence of retinal haemorrhages.[42,43] Thus a series of independently witnessed accidents confirmed that, as parents had maintained, minor falls could cause an acute subdural bleed with the retinal haemorrhages being due to a sudden rise in retinal venous pressure.[44] Further, parental histories of a preceding episode of respiratory collapse were compatible with the very different pathological findings of anoxic brain damage, with disturbance of the microcirculation causing thin subdural and retinal haemorrhages.[45,46]

Meanwhile, the widened definition of Munchausen's syndrome by proxy based on 'diagnostic pointers' has also resulted in wrongful convictions, with the child's unexplained symptoms proving to be due to some rare or unusual medical condition with which the doctor was not familiar.[47] Subsequently the syndrome would be renamed 'factitious illness' in recognition of the fact that, while some parents may fabricate the symptoms of their child's illness, the combination of unexplained symptoms and the mother's personality profile did not constitute a syndrome of abuse.[48,49] Finally, radiologists' misinterpretation of normal variants of ossification in the first year of life as being metaphyseal fractures accounts for the obvious discrepancy between the findings of multiple fractures on skeletal survey and the absence of any clinical signs of abusive injury.[50]

This serial collapse of the improbable *scientific* assumption that there could be no explanation other than abuse for the characteristic presentation of these syndromes has exposed in turn the equally improbable *legal* assumption that, contrary to sound judicial practice, it is possible to convict parents without there being additional circumstantial evidence or reasonable motive for their abusive intentions. Thus Justice Judge would, in his exoneration of Angela Cannings, draw attention to 'the absence of the slightest evidence of physical interference which might support the allegation she had deliberately harmed them'. And, again, he emphasized how 'the absence of any indication of ill temper or ill treatment of any child at any time' and 'the evidence of both her family and outsiders about the love and care she bestowed on her children' made it extraordinarily unlikely that she might have smothered them.

CONCLUSION

Justice Judge's exoneration of Angela Cannings' character as a loving mother focuses attention on the moral and judgmental dimension of the child abuse syndromes arising from extrapolation from Meadow's original description of Munchausen syndrome by proxy that all parents are potential child abusers. Is this extrapolation plausible? The psychological profile of those who unambiguously have harmed their children reveals, as would be expected, them to be psychopaths, criminals, opioid abusers, alcoholics and so on.[51,52] So when parents such as Angela Cannings, with no blemish on their character, *appear* as loving, concerned parents, the likelihood must be that it is because they *are* loving concerned parents—and very powerful evidence is required to argue otherwise.

Meadow and the proponents of the child abuse syndromes necessarily take the contrary view, and in so doing are required to portray parents' protestations of innocence as deceitful. That moral judgment, together with the failure to recognize that medical knowledge may be incomplete, meant that Angela Cannings' wrongful conviction for infanticide was almost inevitable.[53] The question remains how many other parents have similarly been wrongly convicted of the terrible crime of injuring their children, and been robbed of their families, livelihoods and good name.

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