

Caroline Rey-Salmon
Catherine Adamsbaum
Editors

Child Abuse

Diagnostic and Forensic
Considerations

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Foreword

This book had to be written—because of the content it brings and the perspectives it opens. It contains both knowledge and an example. It is, in both respects, profoundly useful.

First of all, it is the very type of book that every medical student should have read before starting his or her professional practice and that he or she should then keep at hand. With it, the slightest sign will attract his or her attention. The data in the book can then confirm the student's intuition and anxiety. The student will know what additional tests will be required, what emergency measures he or she will have to take to remove the child from immediate danger, and who to contact afterward.

The initiative of Doctors Caroline Rey-Salmon and Catherine Adamsbaum puts into perspective cross-curricular knowledge that can generate life-saving reflexes for the child.

The evocation, then, even purely medical and scientific, of the acts committed or likely to be committed on children immediately raises awareness: What society have we become where so many acts of this nature can still be committed?

If asked “what is the primary characteristic of our society today?” We would readily reply “disillusionment.” Is there no cause great enough to spark a need to take action and a passion to serve?

Have we forgotten the children?

Does the world still remember Aylan, that little child lying on a Greek beach in the position so typical of toddlers when they sleep, but plunged into a definitive and dreamless sleep while the murderous wave, now appeased, caressed his forehead in successive wavelets as if in a form of tragic and derisory request for forgiveness?

There are Aylans who die every day, not far away, at the ends of the earth, due to tragedies we hope will not attain us, but on the contrary, at our gate, without our knowing or seeing—perhaps simply because we do not know how to see them.

This book was written so that we learn to see them and, having discovered them, so that we know what to do.

It cannot be read without both shame and gratitude.

Shame, because this is what every human experiences at the discovery of one's own inhumanity. What is more abject than mistreating a child, wounding him, torturing him, physically or emotionally, killing him?

We would like to acknowledge, first of all, those doctors who overcome their emotions, doing what the vast majority of us would not imagine being able to

accomplish: receiving the victims, listening to them with care and the delicacy required by the state of terror and trauma in which the child is found, and at the same time using precision, objectivity, and mastery of a medical science that takes on a deeply human dimension. In this regard, we regret that this book does not include a chapter devoted to the frog—this toy, a mascot used by Dr. Rey-Salmon's team, is an example of a simple and effective way to make contact, which is always hard, with a child victim. When a girl shows on the frog the location of what she has experienced, she begins to express, communicate, and certainly exteriorize the horror suffered.

But unfortunately, more is needed. Too often, it is on the lifeless body of the child that we must look and perform an autopsy to know exactly why and under what circumstances the child lost her life.

And then we need to say it, to tell the judges how the drama unfolded.

It is also at this moment, when we bear witness to what the child has suffered, when we say what she had experienced through all the steps that are part of the procedure. It's in a certain way to give the floor to the child one last time—or perhaps even for the first time.

You really have to love the child to do that.

In all these dramas, there is one thing that is nearly constant. Once the revelation is made, we usually discover that it happened at our doorstep. How is it possible? How can we prevent such behaviors?

We believe that prevention in this area has two aspects: detection of situations of maltreatment and situations of risk.

Screening is in itself a preventive measure because it will have the effect of stopping the anonymity under which maltreatment is developing. It is also necessary to be able to decipher the signs and symptoms. Indeed, the child victim may be very young, perhaps only a few weeks or months old and unable to speak. Later, the child victim often blurs the tracks by protecting the abusers. So, the reality is undoubtedly discovered only by team action, when different specialties network and share the complementary nature of the different approaches.

But once the truth is discovered and the child treated or protected, the network must be extended. We must warn someone, but who? What service? At what moment?

In our opinion, another great merit of this book is that it calls on the non-physicians of the system in question to make an identical effort of transparency and decompartmentalization.

Decompartamentalization is here a master word. In this book, Doctors Caroline Rey-Salmon and Catherine Adamsbaum not only deal with the subject but also reveal its magnitude.

Indeed, although screening is a primary necessity, it nevertheless marks the lack of prevention in general. Prevention is not only about detecting the acts committed but also about the search for risk, that is to say, situations of risk, the discovery of which will make it possible to avoid the act becoming a reality. In many cases, going back in time to the causes of the tragedy reveals attitudes and behaviors after the fact

that could have been alerts had they been decoded. The reason they were missed is often the lack of communication.

This book, this joint work done by doctors, magistrates, and caregivers, men and women of good will, is an example of the approach we must all aim for.

Childhood in danger is above all childhood in pain. It deserves a complete reassessment of habits falsely considered as safe because they are the oldest. Justice must also do its part and look beyond the gates of its palaces.

It is rare for a child to suddenly become unhappy at the age of 10 years without having been unhappy at 5. It is rare that one is in revolt and violent at 10 without the roots of this behavior being in despair born perhaps even before the age of 5 and resulting from a situation of suffering. Bruises on the soul are more difficult to detect than those that mark the body. Often, the former precede the latter. Legislators should think about this and not pretend that filing a report is enough, nor should they hinder early education actions which can be successful.

In reality, acting as a network means sharing an interest, that of the child. This book is an example of the positive attitude to be adopted. Let us hope that the example is followed.

Yves Bot
Advocate General at the European Court of Justice,
Kirchberg, Luxembourg

Preface

The idea of this book comes from our deep wish to convey to younger generations our experience of child abuse. Maltreatment is unfortunately part of pediatric practice in all specialties. Our goal is to lift the denial that surrounds these situations throughout the world and to improve the knowledge of this public health issue, which is painful for everyone—for the young patients as well as for doctors and caregivers. Thus, the detection of subtle signs of abuse should make it possible to at least raise a suspicion of abuse, if not make the diagnosis of maltreatment with certainty, so as to protect the child as soon as possible from a fatal outcome or permanent sequelae that could result from repeated violence.

Our experience stems from our daily medical practice in pediatrics, forensics, and pediatric radiology and from our numerous discussions regarding infants and children possibly victims of abuse. This experience was then enriched by the many lessons learned through years of collaboration with judges, lawyers, investigators, and more generally all the actors of the legal world. Detailed statements from perpetrators of abuse have taught us a great deal about the mechanisms. They also taught us to be careful when dating traumatic events, which we know is often very difficult or impossible because the repetition of violence, whether it be physical or psychological, is unfortunately common.

The variety of topics covered and collaborators involved in this book illustrate the multidisciplinary approach needed when addressing abuse. Pediatricians, pediatric radiologists, neurologists, psychiatrists, pediatric surgeons, pathologists, forensic doctors, caregivers, etc. must work together and communicate with each other and also with social and judicial partners in order to achieve the quickest and most accurate assessment possible regarding the situation of the potentially abused child. The required cooperation between health providers and the justice system is exemplified in two chapters written by magistrates specifically involved in this area.

All of the teams contributing to this book are national or international references in the field of child, fetus, or adolescent abuse. We extend our deepest thanks to the authors and their colleagues for the confidence they have placed in this vast undertaking and for the time they were willing to devote to the writing and reading of these chapters.

This book has been updated and enriched since its French version was published in 2013 (*Maltraitance chez l'enfant*, Ed Lavoisier, Paris, France). We worked in the medical-legal unit of the Hôtel Dieu Hospital, Paris, and in the pediatric radiology

unit at Bicêtre Hospital, Faculté de Médecine Paris Sud University. We would like to thank all our colleagues and teams for the support they constantly provided throughout these long months of writing.

Yves Bot, presiding attorney general at the European Court of Justice, gave us the honor of writing the Preface of this book, illustrating the importance of communication across borders to better detect and therefore better prevent such violence. We express our sincere gratitude to him.

We also thank Professor Henri Nahum for his enthusiasm at the genesis of this project. And we express our appreciation to Lavoisier Editions and Fabienne Roulleaux and her team, especially Beatrice Brottier, who enabled the realization of this project.

We thank Pascale Zerbini for her effectiveness in preparing the manuscripts.

With this book, we wanted to address all aspects of child abuse, from the fetal period through adolescence, focusing on diagnostic elements, which are sometimes difficult to recognize or misleading, and on the differential diagnoses to consider. The book consists of general chapters, chapters dealing with organ damage, and chapters addressing specific issues, such as pathological lesions and postmortem imaging. Therapeutic approaches and main impacts are deliberately summarized. Some chapters are dedicated to epidemiological data, social data (domestic violence), and criminal data, which are key for any doctor involved in this context.

The book contains many illustrations, selected tables and practical examples, and key points summarized at the end of each chapter to enlighten the reader and highlight the fundamental ideas.

The bibliographies are deliberately short and focused mainly on books or basic articles.

This book is intended for any physician or caregiver interested in pediatrics, be they a student, a future specialist, or a practicing practitioner. Outside the medical community, any professional involved in situations of abuse may find answers to the questions that inevitably arise.

We hope that this book will meet readers' expectations and that it will spark the desire to go further and to pool knowledge from all disciplines, thus breaking down the walls between the involved professions for an improved response. Our goal is to protect children.

Paris, France

Caroline Rey-Salmon
Catherine Adamsbaum

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Doctor Caroline Rey-Salmon is a pediatrician and forensic scientist whose research especially focuses on child abuse, sexual and domestic violence. Having completed her degree in medicine at Paris 7 University in 1985, she is currently responsible for the forensic unit at Hôtel Dieu hospital, Assistance Publique de Paris (APHP). Further, Dr. Rey-Salmon is president of the “Center of Victimology for minors” a French association that promotes both the training of professionals and prevention of abuse in collaboration with judicial professionals, for more than 20 years.

Professor Catherine Adamsbaum is a pediatric radiologist and has been involved in the investigation of child abuse for more than 20 years. She received her degree in medicine from Paris 6 University in 1984. She served as General Secretary and later as President of the French Society of Pediatric Imaging (2003–2011). She currently chairs the department of pediatric radiology of Bicêtre Hospital, Assistance Publique de Paris (APHP), and is affiliated with Paris Sud University. In addition, Dr. Adamsbaum has co-chaired the taskforce on abuse of the European Society of Pediatric Radiology (ESPR) and she is currently Director of the National French Diploma program for child abuse.

Both authors are certified experts for the Court of Paris and the Supreme Court. They have developed valuable collaborations with other experts throughout the world in the field of child abuse. They authored a French-language book on child abuse in 2013 (Lavoisier Ed) that has since been awarded by the Prix Prescrire and is commonly used to train not only doctors, nurses, and medical students but also judges and prosecutors (Ecole de la Magistrature).

Working in collaboration with the National American Center on Shaken Baby Syndrome (NCSBS), they also co-organized the first international conference in Paris on shaken baby syndrome (2014).

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“Among the facts so numerous and of such a diverse nature of which the medico-legal history of assault and battery is composed, there are some which form a quite separate group and which, hitherto left in the utmost obscurity, deserve for many reasons to be brought to light. I am referring to those acts described as abuse and ill-treatment, and more specifically of which children are victims of their parents, their masters, those who exercise more or less direct authority over them...”

—Ambroise TARDIEU, 1860.

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1.1 A Brief History of Abuse: The Place of Children in Society

Violence and neglect of children have always existed, in all latitudes, at all times, and many victims mark the history of our civilization. Recently, multiple fractures were found on the skeleton of an abused child, 2–3 years of age, from Ancient Egypt [1]. To obtain favors from the gods or to appease their anger, children were offered during ritual sacrifices. The case of the city of Sparta is well known, where fragile or handicapped children were thrown off the cliff of Mount Taygetus. Rome claimed the omnipotence of the *Pater familias* over his family who was solely responsible for all choices concerning the treatment and punishment of children. Others were walled alive in the foundations of the new cities to ensure their stability. Disabled or illegitimate newborns were abandoned in isolated places away from the cities to be devoured by wild beasts. Soranus, a physician at Ephesus around 200 BC, counselled parents on “How to recognize children worth raising.” Parents had the right of life and death over their children and little attention was given to the loss of a child.

Taking an ancient text as an example, in the Bible, Solomon wrote “He who spares his rod hates his son, but he who loves him disciplines him promptly” (Proverbs 13:24), which led undoubtedly to the saying, “Spare the rod, spoil the child.” Psalm 137:9 reads: “Happy is the one who seizes your infants and dashes them against the rocks.”

Plato, the fourth-century Greek philosopher, said: “the child should obey and for good, otherwise it will be rectified by threats and blows like a piece of wood ... Of wild animals, a child is the most difficult to take in hand: for insofar as he most of all has a spring of reasoning that has not yet been channeled, he becomes cunning and shrewd and the most hubristic of wild animals. The child must be tightly bound first of all when he leaves his mother and his nurses, he must be closely supervised by masters, whatever their function. He is also a slave whom every free man can chastise if some fault has been committed.” Aristotle, another Greek philosopher of the same time, recommended “we cannot learn without pain ... Of course, if the child is not behaving as he should, he must be reprimanded and punished.” But in the fourth-century AD, Oribasius, a Greek physician, and St. Augustine expressed their disapproval of corporal punishment of children, albeit with some nuances.

During the Middle Ages, the oppression of serfs under feudal regime, the poverty they were subjected to in order to survive, and cycles of famine and epidemics account for a multiplication of child abandonment and numerous infanticides, especially impacting girls, who were regarded as unnecessary mouths to feed. Infant mortality was commonplace in medieval society because there was no consciousness of the child’s particularity; children were considered adults in miniature. During the fifteenth century, it is estimated that 65% of children died before the age of 5, the mortality rate reaching 95% for children in foster care or entrusted to religious institutions [2].

In 1639, St. Vincent de Paul set about limiting infanticides and improving the survival of orphaned and abandoned children by opening the Children’s Hospital in Paris with the Sisters of Charity. The “tower” system was created, consisting of a hollow wooden cylinder, swiveling on itself and placed in a wall recess, where women could anonymously leave their children.

In the seventeenth century, the penal system applied in the same way to children and adults. A child guilty of theft could be imprisoned, sent to the galleys, or relegated to the penal colonies. A child's public execution served primarily as a deterrent to others.

The eighteenth century brought a change of perspective regarding childhood with fundamental innocence, Rousseau's "natural" child, and the fact that children are considered the wealth of the family, society, and its future.

This would not prevent the exploitation of children at work, which reached its peak at the time of the Industrial Revolution. Charles Dickens (1812–1870) remarkably described the condition of these young workers, often chained more than 12 h a day to their machine.

In the United States, slavery provided cheap labor for industrial growth, and the children of slaves were considered no more or less than livestock.

The twentieth century has, meanwhile, demonstrated its ability to exterminate children through several genocides. Today, children around the world are being brutalized, murdered, exploited, prostituted, hungered, raped, sold, circumcised, etc. However, great progress has been made in accepting the concept of child abuse and therefore of their recognition [3].

1.2 History of Medical Awareness of Ill-Treatment: A Long Denial

Maltreatment has long been ignored, due to several factors. Until relatively recent times, children were considered incomplete and inferior beings and were subjected to the unlimited rights of parental authority. Children were thus the exclusive "property" of the private family sphere. In the seventeenth century, under the influence of a moralizing trend encouraged by the church and state, and thanks to the concomitant decline in infant mortality, the family went nuclear, focusing the child, who now had a real potential of survival. This mutation linked to the educational process was accompanied by emotional overinvestment: the child became progressively the focus of attention.

The lack of recognition of abuse is also linked to other factors. Infantile diseases, particularly infectious diseases, had long been responsible for considerable mortality among children, and maltreatment occupied a relatively limited place numerically. In addition, denial was common, and it was extremely difficult for the social body to consider that parents were engaging in violence against their children. Doctors themselves, including pediatricians, refused to admit the reality of ill-treatment.

1.2.1 Pioneers: Tardieu

In the first book on pediatrics, *Practica Puerorum*, written in the year 900, a Persian physician, Rhazes, already attributed some children's hernia to beatings [4]. In the seventeenth century, an Italian pathologist Zacchias Paulus published a Latin work entitled *Quaestiones Medico-Legales*, which described the damage caused by rope

lashing and whipping from masters abusing their authority [5]. These practices were denounced by another English physician and philosopher, John Locke, in 1693, then in 1800 by James Parkinson, who is better known for the disease that bears his name than for his work in which he denounced severe punishment, and especially blows to the heads of young children, which could lead to hydrocephalus [6, 7].

But it is in France, and more particularly in forensics departments, that the pioneering work on abuse was carried out.

Ambroise Tardieu held the Chair of Forensic Medicine in Paris in 1860 when he published a long article entitled “Forensic study of abuse and poor treatment of children” [8]. Thirty-seven cases were reported, more than half of which are children under 5 years of age. The “Tardieu spots” or subpleural ecchymoses are described at autopsy after the homicide of an infant by mechanical asphyxiation. He warned his colleagues against the whimsical explanations made to try to explain children’s wounds. He mentioned certain aspects that he considers typical of lesions related to maltreatment: multiple and disseminated wounds, specific localizations (face, limbs, posterior part of the trunk), bruising of varied coloring, and multiple burns. Fractures of the skull with effusions of blood on the brain were the main causes of death [9]. The clinical descriptions are strikingly modern.

A prolific writer, Ambroise Tardieu, was interested in practically all aspects of child abuse, the tough working conditions in mines and factories, and the consequences on their physical and mental health (stunted growth and puberty, bodily deformities, metal poisoning, accidents, sexual abuse, and deep demoralization) [4]. He was also the first to study sexual abuse exhaustively with the analysis of 632 cases including 525 girls under 15 years of age [10]. One of his colleagues, also in forensics, in Rennes, Adolphe Toulmouche, had reported in 1853 the cases of four orphans whipped to death by their guardian and cases of 26 sexually abused children [11]. Conscious of his failure to convince his contemporaries, Ambroise Tardieu made a final attempt by reprinting his 1860 article in his last book published the year of his death in 1879 [12].

Still in the nineteenth century, but the United States this time, it is interesting to review the story of Mary Ellen Wilson told in 1874 by Jean Labbé [4]. Mary Ellen was an 11-year-old girl tormented by her nurse, with whom she had lived since the age of 18 months. Thanks to the intervention of missionaries, she was removed from this nurse, who was sentenced to 1 year of forced labor. For this to happen, it took the help of the lawyer of the Society for the Prevention of Cruelty to Animals, created in New York in 1866, after police and private charity organizations declared their powerlessness. It was as a result of this event that the New York Society for the Prevention of Cruelty to Children was established. Similar groups multiplied in the United States and then developed in England, France, Germany, and Italy. Their action was at the origin of the first laws allowing states to intervene in families.

Under the impetus of forensic pathologists, several pieces of legislation were drafted to try to ensure the protection of minors. It was a radical change in the vision of childhood, which until then belonged to the private family sphere. A first limit to the exorbitant rights of parents was instituted in France with the law of 24 July 1889 on the protection of children who are abused and morally abandoned.

The civil court thus had the power to deprive parents of their paternal power. Violence against children was punishable and prostitution of minors condemned. The criminal irresponsibility of minors under 13 was also affirmed by legislation prohibiting their imprisonment. However, the multiplicity of texts, giving competence to different jurisdictions, did not yet make it possible to effectively organize the protection of children in danger. Above all, society was not ready to raise the curtain of denial that surrounded adult brutality against children, and the pioneering works would soon fall into oblivion for many years.

1.2.2 The First Half of the Twentieth Century

During the first half of the twentieth century, pediatricians struggled to find medically acceptable explanations for the injuries they observed. Explanations included rickets, scurvy, constitutional bone fragility, syphilis, or “idiopathic” origins, all these hypotheses masking ignorance and persistent denial.

In 1929, French forensics doctor Pierre Parisot and pediatrician Louis Caussade published “Abuse against children” [13], which reported the analysis of 1937 cases of physical maltreatment. But this text, written in French, did not receive wide circulation and these authors had no more success than Tardieu.

Already suspected by Ambroise Paré, the traumatic origin of subdural hematoma was confirmed by Sherwood in 1930 [14], who described its association with long bone fractures. In particular, he described the observation of a 9-month-old girl with a fracture of the radius, subdural hematoma, retinal hemorrhage, and optic atrophy but did not provide any real explanation for the trauma. In 1939, neurosurgeons Ingraham and Heyl [15] assert the traumatic nature of infant subdural hematoma but do not go so far as to speak of inflicted trauma. In 1944, to explain the mechanism of subdural hematoma, Ingraham and Matson [16] mention a blow to the head or impact of any other nature unnoticed or kept secret by parents. The cause of the trauma was still not clearly stated.

In the 1940s, the development of new radiographic techniques allowed for a decisive shift in the recognition of child abuse. In 1946, John Caffey [17], one of the “fathers” of pediatric radiology, reported cases of six babies with a combination of subdural hematoma and long bone fractures; he was convinced of the traumatic origin of the lesions, even though it was not reported by the parents, but he did not dare to denounce them for fear of possible legal proceedings [4].

1.2.3 A Turning Point, the 1950: Silverman

In 1953, a student of John Caffey, Frederic Silverman, also a pediatric radiologist, described bone fractures with no traumatic history in children with radiologically normal bone structure [18]. It was the first time that a doctor dared to say that parents could voluntarily inflict serious injuries on their child [4]. Thanks to the pediatric imagery, abusive treatment finally came out of the shadows.

Paul Woolley and Williams Evans [19] in turn report, in 1955, 12 cases of fractures in young children that do not repeat when the children are removed from their family environment. In 1957, Caffey [20] reiterates his original article and insists on the unrecognized traumatic origin of fractures without traumatic context. In 1958, Fisher published the skeletal manifestations of parent-induced trauma in infants and children [21].

1.2.4 Another Decisive Turning Point, the 1960s: Kempe

But again, radiologists specializing in pediatrics have the greatest difficulty convincing their clinical colleagues of the reality of abuse. The man who truly brought child abuse into the awareness of the entire medical community was the Denver pediatrician Henry C. Kempe, who made a presentation at the annual meeting of the American Academy of Pediatrics in 1961, followed in 1962 by the publication with his friend Silverman and the child psychiatrist Brand F. Steele of the “battered child syndrome” [22]. They report 302 cases of child abuse victims in 71 US hospitals for 1 year and 447 additional cases from Crown prosecutors. They describe the characteristics of this syndrome like any other medical syndrome that medical students are used to learning. They write: “the battered child syndrome should be routinely considered in any child exhibiting not only bruises, fractures, or subdural hematoma but also when the size or type of injury is unrelated to the circumstances mentioned by the parents.” They go even further in suggesting other types of abuse: malnutrition, stunting, drug, or criminal intoxication. They also talk about the epidemiology of the problem: incidence of the syndrome in young children, severity of certain cases, frequency of recurrences, and sequelae. They also seek to “explain the reasons for medical repugnance,” i.e., physicians’ refusal to imagine parents abusing their children and their refusal to take an initiative with parents. They develop a maintenance technique, not for blame but to assess the underlying reasons for their psychological disturbance.

Combining a pediatrician, a radiologist, and a child psychiatrist, this article contains the seeds for many subjects of reflection that would be explored later. It was the starting point in the United States of a whole medical, psychiatric, and sociological literature. The article was accompanied by an editorial, in which the problem was considered serious enough to warrant mandatory reporting [23]. The first laws requiring the reporting of physical violence were voted in all American states within 5 years.

In 1965, a new category “child abuse” was listed in *Index Medicus*. In 1976, the International Society for Prevention of Child Abuse and Neglect (ISPCAN) was founded in the United States.

1.2.5 In France: Progressive Recognition—Neimann, Straus, and Manciaux

It took several years for the recognition of this syndrome to be accepted in France. The pediatric radiologists of the Children’s Hospital of Paris, Clément Fauré and Jacques Lefebvre [24], recount the difficulties they faced to get this diagnosis

accepted by their pediatric colleagues, who continued to believe the explanations of the parents and spoke of bone vulnerability probably of congenital origin [25]. In 1960, a case of subdural hematoma associated with fractures in an infant was published as if it was a rare case of an undetermined pathology [26].

The first work of importance recognizing abuse exerted on children comes from the team of Nathan Neimann in Nancy with a series of 79 cases between 1958 and 1965, in which only one had been diagnosed correctly by the referring physician. This series was published several times [27, 28]. Neimann had published an article in 1958 [29], before that of Kempe, but it was written in French, which explains the relatively modest international circulation. Next came Pierre Straus [30], which covered 46 cases from 1960 to 1967.

Together, Neimann and Straus made it possible to recognize the phenomenon of child abuse in France. These two teams are both associated in an article in 1968 [31] and later with Michel Manciaux, a student of Neimann, in a joint study carried out in 1972 and 1975 [32].

Subsequently, work and publications increased and awareness grew rapidly among health and social workers, followed by the public authorities (governmental campaign touching 50,000 abused children, talk about it, it is already acting) and then the general public. This was aided by a number of professional and voluntary associations, with notably the creation of the French Association for Information and Research on Child Abuse (Afirem) in 1979 by Pierre Straus [32].

1.2.6 Other Forms of Abuse Are so Pinpointed and Described

- *The so-called shaken baby syndrome*

Already in 200 BC, Soranus of Ephesus spoke very clearly the dangers of shaking a baby and recommended “not to entrust a newborn to women who are angry or have bad character because they can drop or shake dangerously.” In 1682, a doctor from Geneva, Bonnet, wrote about bruises on the head of infants that may have been responsible for intracranial hemorrhage: “this may be the fault of the nurse who drops child or throws him against some something hard” [33]. In 1823, a book of *Advice to Young Mothers Raising Children* written by a London grandmother states that “violent blows to the head can result in water production within the brain and how some parents expressed their anger toward a child by violently shaking can cause serious consequences” [4]. This corresponds to the hydrocephalus described by Parkinson in 1800 [7]. Modern medicine often explains with the scientific arguments that technological advances allow what those before us suspected.

The cerebral trauma in abused children was then described in children projected against a hard surface or that fell, associated with skin injuries and/or fractures.

Two German pathologists show evidence of subdural hematomas in infant deaths. In 1891, Dohle finds 14% subdural hematoma in 395 autopsies of children under 1 year, and in a series of 6000 autopsies of children under 2 years, in

1914, Kovitz finds 14% subdural hematoma in those aged 1–3 months, 10% in those aged 3–12 months, and 9% in the 1–2 years old.

Othmar Purtscher, an Austrian ophthalmologist, described in 1910 and published in 1912 [34] a paper on retinal hemorrhages in children who had their chests squeezed, sometimes leading to rib fractures and hypertension in the retina vessels. The term shaken baby was not used, but the description corresponds perfectly.

However, it is permissible to give SBS authorship to an English neurosurgeon, Norman Guthkelch, who in 1971 was the first to provide an explanation for subdural hematomas associated with fractures with no external signs of violence by invoking the causal mechanism of shaking the baby [35]. In 1972, John Caffey [36] would talk about the shaken baby syndrome and tell the story of a nurse who had admitted shaking a dozen children for 9 years to calm them down; two of them were dead. For one, at 11 weeks of age, she confessed that as the child refused to drink her bottle, she caught him by both arms and shook until his head was inert and he calmed down. The autopsy did not reveal fractures but uncovered a bilateral subdural hematoma [37].

- *Munchausen syndrome by proxy* described by Roy Meadow in 1977 [38] in which parents, most often the mother, are responsible for an alleged or provoked pathology.
- *Mental or emotional deficiencies* [39] including psychosocial dwarfism [40].
- *Sexual abuse* in children long to come to light because of the difficulty of representing this form of abuse [41].
- *Institutional violence* which the child psychiatrist Stanislas Tomkiewicz [42] denounced as “any act committed in or by an institution, or lack of action, which causes a child’s physical or psychological suffering and/or interferes with his further development.”

There is an increase in the number of publications that allow for the recognition of other forms of abuse: voluntary refusal of parental care for their children, violence between minors, harassment in school, sectarian education, fetal abuse, child soldier, child witness and victim of conjugal violence, ill-treatment linked to new information and communication technologies, and more.

Conclusion

This back and forth between Europe and the United States over a 100 years is illustrated by the names given to the various maltreatment syndromes. Thus, in France, although initially discovered by Ambroise Tardieu, the discovery of bone fractures of different ages caused by inflicted trauma was called “Silverman syndrome” to honor the famous pediatric radiologist, invited by pediatricians in Paris to give lectures. This term, which should be reserved for the observation of bone fractures of different ages, is sometimes misused in other maltreatment syndromes. At the same time, Frederic Silverman, for the sake of truth, suggested the use of the term “Ambroise Tardieu syndrome” [43] in American journals.

The problem of naming the different types of maltreatment persists, as evidenced by the multiplicity of terms used: abuse, non-accidental syndromes, inflicted injuries, abusive head trauma, shaken baby syndrome, etc.

However, very gradually, there has been a real mobilization of health professionals and the social body for the cause of children around the concept of abusive treatment of children and adolescents.

The concern to protect children became international in scope on 20 November 1989 with the adoption by the General Assembly of the United Nations of a convention on the rights of the child. This convention is an illustration of the collective awareness of the need for better protection of children throughout the world.

Historically, the denial of the phenomenon of child abuse has existed even in the medical world. It took the stubbornness of a few doctors on both sides of the Atlantic to acknowledge the existence of real pathologies caused by those close to the child. Even today, this denial exists among certain “family” doctors for whom it is difficult to identify children who are victims of abuse and neglect. It is often simpler to accept the story reported by the parents. This denial is factorial: actual ignorance of the phenomenon or inability to accept an inconvenient truth, especially if the family is known to the doctor. History makes it possible to become aware of the reality of the facts and justifies that it be taught to younger generations.

Key Points

- Violence and negligence against children have always existed still in a ubiquitous and timeless manner.
- The lack of recognition of abuse before the twentieth century was linked to high infant mortality and denial.
- Children were considered the exclusive “property” of parents subject to unrestricted parental authority until the twentieth century.
- In 1860, Ambroise Tardieu, a French forensic pathologist, published an article entitled “Medico-legal study of abuse and poor treatment of children.”
- The French law of 24 July 1889 on the protection of abused children gives the civil court the power to remove parental power.
- X-rays allowed the recognition of child abuse, thanks to major publications by the pediatric radiologists John Caffey and Frederic Silverman in the 1940s.
- Shaken baby syndrome was described by Caffey in 1972 and the Munchausen syndrome by proxy by Meadow in 1977.
- The notion of child maltreatment was introduced into the Act of 10 July 1989 in France.
- Child protection expanded internationally with the adoption by the General Assembly of the United Nations of a Convention of the Rights of the Child on 20 November 1989.

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Definitions and an Epidemiological Approach to the Frequency of Child Abuse

2

Anne Tursz

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In most countries, including France, the epidemiology of child abuse is nearly nonexistent, especially as concerns measuring the size of the problem. This difficulty in calculating frequency is largely linked to the absence of any real consensus on the definition of abuse, both internationally and nationally.

The most easily read definition for the public and the media, but also for health professionals, is the one describing abuse as a serious chronic illness with early onset, made up of a group of clearly identified pathologies: physical abuse, sexual violence, psychological abuse and negligence. In fact, the definition of child abuse should be broadened and include all situations in which the fundamental needs of infants and young children are not recognized. For example, we know that early and

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massive emotional deprivation has a harmful effect on a child's development. Indeed, international scientific literature shows that long-term consequences of abuse are similar in all countries and emphasizes the seriousness of psychological violence, neglect and cases of emotional deprivation, even in the absence of physical abuse. Under-investigation, non-diagnosis, no reporting or dissimulation of child abuse lead to a major risk of repetition of violence.

What do we presently know about the extent, causes and consequences of child abuse? In fact, we know very little. In this chapter, we propose to consider the epidemiological approach to the frequency of child abuse in France as an example. Data from other countries show the rarity and even the absence of studies on child abuse in defined populations. For example, studies on abusive head trauma are based on data from limited and varied sources (forensic medicine, medical facilities, the press, etc.) [1].

Public authorities regularly make quasi-ritualistic statements on the seriousness of the problem and the necessity of reducing it, but there is no possibility of basing strategies of prevention, screening or care on reliable statistical and epidemiological data. In fact, for the wider public and even for some professionals, the principal source of information remains the media, and child abuse is reduced to the juxtaposition of anecdotal news items. These conceal a very real problem of society and public health and contribute to relieving parents that raise their children in a violent manner of any responsibility since they 'don't go that far'!

As with any pathology, the epidemiology of child abuse has three principal study objectives: calculate the frequency, identify risk factors and determine the long-term consequences. Reaching these objectives assumes in the first place that an agreed-upon definition of this pathology exists, which is far from being obvious. What are we talking about when we speak of child abuse?

2.1 Definitions

Until the law of March 5, 2007, reforming child protection¹ services, definitions used by the Decentralized Observatory of Social Action (ODAS) were the ones most used, and they are not obsolete [2]. Three groups of children are identified:

- 'Children at risk of abuse: any child living in conditions that endanger its health, safety, morality, education or care, without necessarily being abused
- Abused child: any child who is a victim of physical violence, sexual abuse, psychological violence or serious neglect with severe consequences for his or her physical and psychological development
- Child in danger: a category grouping together the two preceding ones'

¹ In France, child protection is decentralized at the level of the Department (basic territorial administrative unit) which is run by the General Council. Since the 2007 law, child protection activities are under the responsibility of the CRIP (Departmental Unit for Gathering Information of Concern), and statistical data are compiled by the Departmental Observatories for Child Protection (ODPE).

The definition used in articles recently published by the journal *Lancet*, which sets the average frequency of child abuse at 10% of children in several high-income countries [3], is as follows: ‘Any act of commission or omission by a parent or other caregiver that results in harm, potential for harm or threat of harm to a child. Harm does not need to be intended’ (p. 8). We can see that, compared with this definition, the French definition of ‘child abuse’ is very restrictive and that a child deemed ‘at risk’ is already a victim of a type of abuse. This is the point of view that prevailed in discussions of the National Committee on Child Protection during the preparation of the law of March 2007: the notion of danger took precedence over that of abuse.

The 2007 law [4] also introduced the notion of information préoccupante (IP) or ‘information of concern’, presently defined as ‘any information, including medical, which may lead to the fear that a child is in a situation of danger or in risk of danger, that it may be in need of assistance, and which should be communicated to the departmental unit for evaluation and follow-up’ [5]. While the IP does not define the abuse or danger, but should rather be seen as a professional tool for evaluating the seriousness of a situation—not to be confused with confirmed abuse, which must be reported to judicial authorities—it is clear nevertheless that this IP refers to a definition of danger.

In fact, there are several reasons to use a broad definition of abuse: (1) the international scientific literature shows that the effects of repeated humiliations (‘you’re worthless; you’re brainless; you’ll never amount to anything; etc.’) are often more harmful than blows in the long run, especially in terms of socialization [6]; (2) publications also point out the seriousness of neglect and isolated emotional deprivation, without physical abuse; and (3) homicide is not an extreme form of abuse, but rather abuse that’s gone wrong. When abusive parents are compared with parents who are perpetrators of filicide, they show common characteristics. A chronically beaten child goes suddenly from being a victim of abuse to being a victim of homicide. It can thus be stated without hesitation that, when it comes to maltreatment, there is no such thing as harmlessness, and a definition of abuse should be based on recognition of the needs of the child. It is well known that young children can only grow, develop and become socialized and responsible adults when their physical, affective and educational needs are met by those people that take care of them, generally their parents. Disregarding this rule thus constitutes a form of maltreatment, which is confirmed by the daily experience of those caring for children who are victims of abuse.

It is thus necessary to conceptualize child abuse using two complementary approaches: that of meeting (or not meeting) the basic needs of the child, which leads to reflections on primary prevention (the earliest possible screening for risk factors and recognition of danger before the advent of abuse itself), and that of a serious chronic disease, an approach that is more meaningful for medical professionals and the public.

The following text will specifically examine the evaluation of frequency, to the exclusion of the identification of risk factors and long-term consequences. Indeed, there is a real need to understand the statistical situation in France (method of gathering information, institutions involved) in order to consider the means needed to truly know the magnitude of the problem. On the other hand, risk factors and long-term consequences are not very different from one country to another and are the subject of a very rich scientific literature, most of which is in English.

2.2 The Estimation of Frequency

The obligation to maintain epidemiological data on abuse is over 20 years old, since it was the law of July 10, 1989, relative to the prevention of abuse to minors and the protection of children [7] that set up a departmental system of reporting abuse [and] entrusted the General Council with developing this ‘a permanent system to enable gathering information on abused minors’ using a criterion other than that of ‘danger’: that of ‘abuse’. As noted above, the law of March 5, 2007, expands the activities of children’s social services to minors and their families facing ‘difficulties that endanger the health, safety and morality of these minors or seriously jeopardize their education or their physical, affective, intellectual and social development’. Depending on what information source is consulted, reference is thus made either to danger or to abuse or to both, a point that will be systematically specified in what follows.

2.2.1 The Most Recent Official Figures Available

There are several public institutions responsible for compiling data on endangered or abused children [8]:

- Within the framework of decentralization and up until 2006, the Decentralized Observatory of Social Action (ODAS) managed statistics on children in danger. According to that organization, there were 98,000 children in danger in 2006, 19,000 of whom were abused [9].
- The tenth report of the National Observatory of Children in Danger (ONED) [10], dated May 2015, indicates that as of December 31, 2012, 284,050 children under 18 years of age benefited from at least one administrative or judicial measure, giving a rate of 1.95% for that age category (from 1 to 3.8%, depending on the Department).
- According to the National Observatory on Delinquency (OND), which has become the National Observatory on Delinquency and Penal Actions (ONDRP), statistics from the police and national gendarmerie noted 6038 cases of ‘abuse and abandonment of children under 15 years of age’ in 1996 and 17,889 cases in 2011 [11].

As concerns fatal abuse, in 2011 the ONDRP counted 58 cases of homicide of children under 15 years of age, and the CépiDc at Inserm² counted 41 cases.

Some of these figures give an idea of the seriousness of the problem. Thus, nearly 2% of the general population of minors less than 18 years old is cared for by social assistance for children (ASE), a worrying percentage. And what is to be said concerning figures for abused children identified in police statistics that have tripled between 1996 and 2011?

²CépiDc—Inserm: Center for the epidemiology of medical causes of death of the National Institute of Health and Medical Research. This is the Inserm service that ensures preparation of national mortality statistics.