Suspected Child Abuse and Neglect: Assessment in a Hospital Setting

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Child abuse and neglect has become recognized both by professionals and the public at large as a common phenomenon existing in Israeli society. By 1985 it became apparent that children (minors under age 18) were arriving at hospital emergency rooms not only because of illness but also for the treatment of symptoms resulting from detrimental behaviors of their primary caretakers toward them, within their immediate environment. The regulations set out by the Ministry of Health in that year is evidence that this problem is recognized; furthermore, they reflect an attempt to provide an efficacious service to these children by ensuring their immediate safety and health and by working towards preventing the occurrence of future harm [1]. These regulations, which have largely remained unchanged, call for the establishment of a multidisciplinary team in each pediatric department. These "child protection teams" focus on the identification, assessment and reporting of suspected cases of child abuse and neglect. They comprise senior social workers, pediatricians and nurses, with the participation of other professionals who are consulted on specific issues pertaining to the assessment. This professional diversity reflects the complexity of the phenomenon and provides a mechanism capable of addressing its multi-faceted characteristics. Indeed, the multidisciplinary team has been described as the optimal vehicle for evaluation of child abuse and neglect [2–5]. The importance of this body and its role received greater impetus in 1989 when the reporting of suspected victims was deemed mandatory in an amendment of the penal provisions of the law (Clause 368d.).

Contribution of the medical setting

Initially, the development of a systematic and structured work protocol for hospital child protection teams in Israel seemed to be a pioneering endeavor with little local or foreign experience to fall back on. However, at an early stage in the process it became clear that the hospital setting has much to offer to this field. Numerous conditions particular to this setting shape its unique contribution. They facilitate preliminary protection for the child, accessibility to professional resources, the opportunity for professional involvement, and ultimately change. The hospital site is often the primary point of entry into the medico-legal process for many children suspected of being abused – sexually or otherwise – since family, police and child protective services frequently bring these children to the hospital emergency department [6,7]. Medical personnel play a key role in referrals, as much of the defining of abuse requires their particular expertise [8].

By bringing the child to the hospital, caretakers are in effect taking the problem out of the home to the potential scrutiny of professionals. This might be a rare opportunity for the disclosure of an otherwise well-guarded secret. The Ministry of Health regulations stipulate the immediate admission of any child suspected of suffering from abuse or neglect, regardless of his or her medical condition, providing a means for the child's immediate distancing from the endangering environment, albeit for a short time. This is an opportunity to activate the well-practiced professional infrastructure of the hospital with its accessible and varied resources and services. The hospital provides a protective environment where knowledgeable consultants are readily available and where a prompt evaluation can be carried out [9].

While the child is in relative safekeeping in the hospital, his situation is assessed and an intervention program is planned and implemented, which includes the mobilization of essential community-based services, prior to his exit from the hospital. Ultimately, the child should be discharged to conditions different to those from which he came. The level of risk should be reduced as the result of continuing intervention, which might range from unobtrusive follow-up by community-based services to removal from the home.

Types of abuse

Child maltreatment is categorized into physical abuse, sexual abuse, physical neglect, and emotional maltreatment or neglect

Physical abuse

Physical child abuse is the non-accidental, injurious and violent use of force on a child. It involves inflicting physical harm by beating, burning, choking, biting, shaking, pushing, restraining, kicking, or any other action meant to hurt or punish the child [Figure 1] [10,11]. The developmental stage of the child must be considered when determining compatibility of the injury to the history provided by the caretakers [12].

Since presenting symptoms are tangible and readily observable, many cases of physical abuse can be identified on the child's arrival at the emergency room, by careful history-taking, physical examination, and non-invasive imaging techniques (such as computerized tomography and magnetic resonance imaging). The different types of physical abuse are described below, with emphasis on those indicators that the hospital setting is equipped to address. The literature is prolific on the subject [13].

Figure 1. Slash marks from whipping.

Figure 2. Spiral fracture of femur consistent with twisting mechanism

• ***Skeletal injury***

Any fractures in infants must be viewed with great suspicion [11]. Skeletal injuries that are specific for non-accidental injury in the normal infant include metaphyseal-epiphyseal injuries, most common in long bones especially the distal tibia, proximal femur and the humerus, often occurring bilaterally. Also included are multiple rib fractures in infants and small children resulting from indirect forces during thoracic compression while lifting and shaking the child, and avulsive fractures of the clavicle and acromion process [11,14–16]. Merten and Carpenter [17] note other fractures that are highly suggestive of non-accidental injury, such as fractures inconsistent with the age of the infant or history provided by caretakers, multiple fractures involving more than one skeletal focus, fractures of different ages indicating repetitive episodes of trauma, spiral fractures [Figure 2], and the combination of skeletal and extraskeletal injuries

Figure 3. Finger imprints from vigorous gripping

• ***Skin injury***

Bruises: Bruises in infants younger than 9 months who have not yet begun to walk should raise suspicion of abuse. Accidental bruises on bony prominences such as the shins and forehead occur commonly in older, mobile infants and toddlers. Bruises in atypical areas or areas that are usually protected, e.g., the back, genitals, chest, abdomen and hands, should also raise suspicion of abuse [11,18]. A suspicious bruise should be thoroughly investigated for possible abuse since it might be the only visible sign of an underlying injury. The color of the bruise is indicative of its age and can thus contribute to estimating the time of injury. Bruises of particular shapes increase the possibility of abuse and are often indicative of the mechanism of injury. Examples include loop marks from a doubled-over cord or rope, belt and buckle marks, marks made by household items, hand/finger imprints from slapping [Figure 3], abrasions at the corners of the mouth, and circumferential bruises around the wrists and ankles from binding [11,12].

Burns: Accidental burns are very common among crawlers, toddlers and young children. The medical practitioner must know how to differentiate between accidental and non-accidental burns. Accidental burns are usually the result of hot liquids that spilt on the child, and commonly occur when crawlers and toddlers yank and pull tablecloths, electrical cords attached to hot water containers, and cups and pots filled with hot liquids. The spill pattern in such cases is typical, with the largest and severest burn occurring at the initial point of contact with the body, usually on the anterior chest, and less severe burn in narrower areas as the liquid travels down the body. There are also associated splatter marks. Contact burns can also occur accidentally, usually on the palms but also on other body parts as children pull down or fall onto hot objects [11]. Demarcation of the burn is the main criterion when differentiating between an accidental or non-accidental burn. A well-demarcated burn is more indicative of intentional and non-accidental burning, whether caused by liquids or through contact of the skin with objects. Attempts by the child to move away from the source of the burn in accidental burns usually result in patchy, irregular and scattered burns. Even and clearly defined burns on areas such as the buttocks, or bilateral burns of the lower extremities, in a shape resembling that of a glove or sock, require the investigation of possible abuse. Intentionally inflicted cigarette burns are 7–8 mm, well-demarcated, circular burns that extend well

into the dermis [11]. One must bear in mind that even accidental burns could be due to child neglect.

- ***Abusive head trauma***

Abusive head trauma is the most common cause of death from child abuse and is the leading cause in all trauma-related deaths among children. Head injury may result in brain damage, physical impairments and psychological dysfunction. This form of child abuse was recognized by Caffey in 1946 [19], who described the relationship between intracranial hemorrhage, long-bone fractures and trauma. In 1962, Kempe et al. [20] included head injury in the concept of inflicted non-accidental injury to children, which they referred to as the "battered child syndrome." A conceptual breakthrough occurred in 1971 when Guthkelch [21] linked whiplash shaking forces to subdural hematomas. Other than a high impact car crash or other major trauma, most accidental trauma, such as a fall from a bed or down a short flight of stairs, does not produce enough force to cause significant intracranial pathology [22]. Skull fractures caused by abuse can be differentiated from those due to other types of trauma. Skull fractures following mild to moderate trauma are typically linear, non-displaced, unilateral and in the parietal bone [22]. Skull fractures caused by abuse tend to be bilateral, comminuted, depressed, wider than 1 mm, involving non-parietal bone, crossing suture lines, and associated with other injuries [23,24].

A classification system for head injury was devised by Levitt et al. [25] as follows: a) direct impact injuries, which occur when high speed objects hit a relatively stationary head or when the child's head is propelled against a stationary object; b) penetrating injuries, caused by neglectful or willful practices with firearms, c) asphyxia, hypoxia and ischemia, caused by choking at the neck, prolonged squeezing forces to the chest or gagging of the mouth, which can lead to microcephaly, cognitive limitations and other neurologic problems; and d) shaking, with the use of intense force, which can directly cause intracranial, cervical spinal cord and intraocular injuries or may act in combination with impact injuries. Careful fundoscopic examination can reveal retinal bleeding suggestive of aggressive shaking.

- ***Abdominal injury***

This is the second most frequent cause of mortality in child abuse victims, after head injury, although it is not a common manifestation of abuse. External signs of abdominal injury are often not readily apparent, and typically there is a delay in seeking medical help because caretakers usually bring the child to hospital only when he or she develops obvious symptoms such as sepsis or hemodynamic instability. Thus the potential for severe injury is high, and accordingly, physicians should seek for abdominal injury in suspicious cases [11]. Blunt trauma rather than perforating injury is the basis of most inflicted abdominal injuries in the child abuse syndrome and is caused most frequently by a rapidly decelerating force delivered by a fist, kick or other blow [17,26]. Hyden and Gallagher [27] listed non-accidental abdominal injuries in decreasing rate of occurrence: rupture of liver or spleen, ruptured viscus, duodenal hematoma, mesenteric vascular injury, pancreatic injury, and renal trauma.

Sexual abuse

Sexual abuse denotes interactions between a child and an adult, with the child being used for sexual stimulation of the perpetrator or another person. Sexual abuse may also be committed by a person under the age of 18 who is either significantly older than the victim or in a position of power or control over the victim [10,28]. Sexual abuse includes fondling, oral or anal sex, sexual intercourse, forced participation in or exposure to pornography, inappropriate exposure to sexual acts, and forced prostitution. In the hospital setting the detection of sexual abuse usually takes a circuitous route. Not surprisingly, children who are sexually abused, at least in our experience, usually do not make a direct and detailed verbal report of the abuse when they are admitted to the hospital. Since sexually abused children are usually coerced into secrecy, a high level of suspicion may be required to recognize the problem. Presenting symptoms might be very general, such as abdominal pain, headaches, hyperventilation and fainting episodes, sleep disturbances, enuresis, encopresis or phobias. The pediatrician considering sexual abuse must exert extreme caution when confronting these symptoms as they may indicate physical or emotional abuse, *or* other non-abuse-related stressors [29]. More severe symptoms include hysterical conversive reactions and eating disorders. Some individuals are brought to the emergency rooms after attempting suicide or expressing suicidal intentions, gestures or thoughts. The diagnostician seeking to identify the likely cause of non-specific behavioral or somatic symptoms should consider the possibility of sexual abuse. The physical examination requires specialized skills for diagnostic and forensic purposes. Often, sexually abused children sustain no injuries at all since this type of abuse consists also of fondling, rubbing or oral-genital contacts that leave no physical indications [30]. Children may sustain genital injuries by accident, e.g., from sitting on sharp objects, riding a bicycle, and climbing over structures. Only rarely do children present symptoms of genital trauma that can be explained plausibly and exclusively by sexual abuse. Among the more specific signs and symptoms of sexual abuse are rectal or genital bleeding and developmentally unusual sexual behavior [29].

Symptoms consistent with sexually transmitted diseases are also suggestive of sexual abuse [31,32]. Before referring the case for investigation of possible sexual abuse, the physician must be certain that the child did not acquire the sexually transmitted disease in a way other than through sexual contact, e.g., congenitally or during vaginal birth.

The assessment of sexual abuse is an extremely stressful and threatening event for both the child and his or her family, and it should be carried out after differential diagnoses have been considered and rejected.

Cases where physical symptoms are absent but the caretaker suspects sexual abuse require a thorough clarification of the reason for the suspicion. Only after the information given by the caretaker has been determined as constituting a reasonable base for the suspicion of sexual abuse or assault should the child undergo further examinations.

Neglect

Physical Neglect

Child neglect is the omission of an act necessary for meeting the basic needs of a child by those who are responsible for him or her [10,11,33]. Physical symptoms are the manifestation of neglectful behavior towards the child, regardless of the intent of the caretaker. The results of physical neglect can be as fatal as those of physical maltreatment and should be responded to with a corresponding level of seriousness. Child neglect is determined in the hospital setting by the appearance of symptoms directly related to the lack of appropriate care or by the exacerbation of symptoms not treated correctly or on time.

Neglect may also be the result of the parent's lack of skills and knowledge, or the caretaker's lack of material, social and emotional resources – without any ill-intent. Neglect can also be the result of cultural factors or religious beliefs. Appropriate intervention for this kind of neglect, at least initially, should be of a psychoeducational and supportive nature aimed at the caretaker's empowerment and competent functioning. During hospitalization the nursing staff plays a central role in teaching basic parenting skills to caretakers.

In contrast, severe neglect is the willful causing of danger to the child through omission of care, including intentional failure to provide adequate food, clothing, shelter or medical care [Figure 4]. This kind of neglect calls for involvement of both the police and child protective services.

Emotional maltreatment or neglect

Emotional maltreatment and neglect includes rejection, verbal assault and humiliation, isolation, indifference to his/her needs, placing the child in a role inappropriate to his/her age and developmental stage, excessive expectations that result in feelings of frustration and inadequacy, and constant berating of the child regardless of his/her actions [10,34]. Emotional maltreatment or neglect, as with other forms of emotional trauma, is usually of an intangible nature and thus professional interventions are problematic. This is further hindered by the lack of consensus regarding definitions and guidelines for the delineation of severities [34]. It is here that the hospital has an important role to play because children suffering from emotional maltreatment arrive at hospitals after having translated their emotional distress into physical symptoms, which are of a tangible nature. Once again, this might be a rare opportunity to intervene and help a child in such a situation. Children suffering from underlying emotional maltreatment often develop psychosomatic symptoms such as stomach aches, headaches or unexplained pain in other parts of the body. Others come to the emergency room because of fainting episodes and breathing difficulties. More severe cases include eating disorders, conversive hysterical reactions, and suicidal behavior. Professionals in the medical setting must be particularly alert and must consider the possibility of emotional distress when the investigation of symptoms rules out an organic cause. The multidisciplinary team plays a crucial role in the diagnosis of emotional maltreatment, and mental health specialists, such as child psychiatrists, should be consulted.

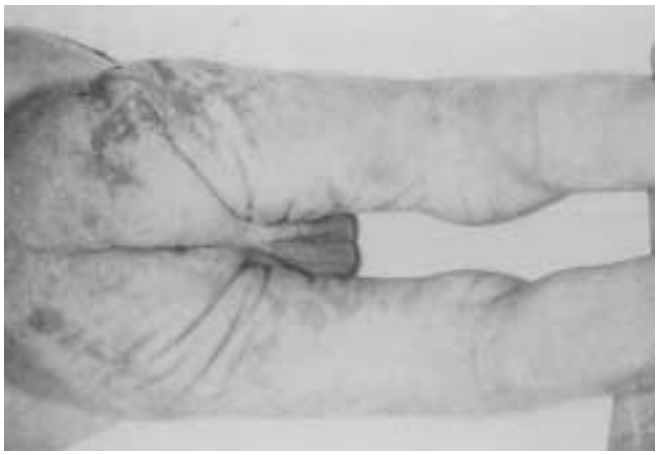

Figure 4. Physical neglect manifested by gluteal wasting, severe diaper rash and abdominal distension

Munchausen syndrome by proxy

This form of child abuse is especially misleading for medical professionals. Acute alertness and suspicion is required to prevent the potentially fatal physical damage and psychological danger to the child that is inherent in this syndrome. Munchausen syndrome by proxy was first described by Meadow in 1977 [35] as a form of child abuse in which a parent intentionally and systematically fabricates information about the child's health or intentionally makes the child ill. The results of this falsification include multiple hospitalizations and unnecessary harmful and often intrusive medical procedures. Professionals are often deceived by the seeming devotion of these abusive parents to their children, as these parents often express concern and involvement through impressive medical knowledge beyond the scope of the layperson. Physicians are prone to being misled, since the parents' subjective retrospective reports of their child's condition make up a substantial part, in addition to clinical data, of the diagnostic process.

Key features of the syndrome include repetitive illness in the victim and his or her siblings. Victims are passive toward the perpetrator's actions and exhibit high tolerance toward repeated medical procedures. Behavioral manifestations among such parents include insistence on illness when none can be diagnosed; overcompliance with hospitalizations, invasive testing and consultations; and frequent reference to certain physicians or health-related professionals. Hospital transfers and discharges contrary to medical advice are also common, especially when manipulations become apparent to the medical staff. It is essential that the staff conduct a thorough investigation, accurately and systematically document the findings and diagnoses, and retain all samples for analysis (e.g., vomit, urine, stools, or blood). Also important is a multidisciplinary collaboration among hospital professionals and with community-based clinics and welfare child protective services.

Assessment

The purpose of the hospital assessment of child abuse or neglect is to establish whether the suspicion is soundly based. If so, a report is made to the relevant authorities for further investigation and

action. This task involves a complex professional decision-making process, both cognitively and emotionally, with far-reaching ramifications for the child and his family. It must be emphasized that the hospital is not required to prove that maltreatment took place or to identify the perpetrator. The final decision, in most cases, is based on multiple factors – physiologic, psychosocial, behavioral and emotional data that were collected during the assessment, which involves interactions with the child and other relevant figures. The assessment is a multi-stage process and consists of: a) addressing the nature and severity of each factor; b) examining the strength and character of the relationships between the various factors; and c) conducting an integrative study of all the factors to achieve an overall view of the case.

An assessment model is beneficial in that it provides guidelines based on empiric data and ensures comprehensive information-gathering. It should also allow for intuitive input of the practitioner and sensitivity to unique characteristics of the case. The model presented here was developed in the pediatric department of Sheba Medical Center in 1986. Since 1991, the Sheba Medical Center has assessed approximately 900 cases of suspected child abuse and neglect. Of these, approximately 700 were determined as having a reasonable base for suspicion and were reported to the welfare authorities and/or police for further investigation. During this last decade, a systematic and constant increase in the annual number of cases referred for assessment has been observed, which reflects a growing professional awareness and development of diagnostic skills. Our cases are categorized into suspected physical abuse, sexual assault or abuse, emotional neglect or abuse, physical neglect and others (Munchausen syndrome by proxy, domestic violence not directed toward the child, drug or alcohol intoxication, etc.). The most common type of maltreatment, in our experience, has been physical neglect.

The assessment is divided into three components: a) the physical examination, b) the psychosocial assessment, and c) the clinical observation. Primary responsibility for the different areas of the assessment is allocated to the various professionals involved, i.e., pediatricians are responsible for the physical examination, the social worker and psychiatrist for the psychosocial assessment, and the nurses for the clinical observation. However, in order for the assessment to be thorough, each professional has to have in-depth knowledge of the assessment areas assigned to his or her colleagues. Overlapping is favorable and prevents gaps in the assessment, which can potentially lead to mistakes in the assessment process and eventually to erroneous and harmful conclusions. An error in assessment of abuse is devastating. To conclude that a child was abused when, in fact, he or she was not subjects the child and his parents to unneeded therapeutic and possible legal interventions. Conversely, if inflicted injury is not recognized the child may return to a home where continued abuse, despair, further injury or death can occur. Failing to document abuse also exposes other children in the family to abuse [36,37].

Medical history and physical examination

The purpose of the medical history and the physical examination is to establish whether the signs and symptoms are indicative of child maltreatment, in any of the above-mentioned categories. This requires consultations with medical specialists, according to the specific characteristics and the presenting symptoms of each case. Findings of the physical examination should not be determined as indicative of abuse and should not be considered final and conclusive until differential diagnoses have been negated. Dubowitz [38] emphasizes the importance of distinguishing between screening and diagnosis by the pediatrician. He defines the initial efforts of the pediatrician as screening, where an examination is made for the possible presence of maltreatment. The screening constitutes a synthesis of the history and findings of the physical examination with knowledge of risk factors associated with maltreatment. When this screening process reveals certain concerns, further investigation is required before a diagnosis can be reached. Thus, positive screening only signals preliminary concern and should not be construed as indicative of maltreatment. It does, however, often mark the first stage of the assessment process and the subsequent investigation aimed at clarifying the circumstances of the suspected maltreatment.

The psychosocial assessment

The aim of the psychosocial assessment is to explain the physical symptom by placing it in a broader context of social, familial, behavioral and emotional factors. As stated earlier, in most cases the conclusion regarding the occurrence of abuse cannot be drawn solely on the basis of the physical symptoms. There are very few pathognomonic symptom patterns in abuse. Psychosocial factors, the injury pattern and the stated mechanism of injury must be considered in each case [39].

The social worker has primary responsibility for the formal psychosocial assessment, but in effect all the professionals contribute to it. The psychosocial assessment is carried out in two spheres – the "here and now," and the background functioning of the child and family. The "here and now" refers to the assessment of the current incident, which encompasses clarification of the circumstances that brought about the presenting symptom, the parents' emotional and behavioral responses to the child's condition, and their understanding of the significance of what occurred. The degree of plausibility and credibility of the explanation is assessed as well as the interactions between the child and the parents. Simultaneously, possible high risk factors or stressors in the family background are identified which may raise the probability of child maltreatment or abuse.

The clinical observation

Hospitalization enables an unobtrusive observation of behavioral factors that may provide important clues as to parental functioning and the parent-child relationship. This is probably the only opportunity for professionals to observe families over an extended period. The nursing staff, as compared to the other professionals, is in the most favorable position to carry out a comprehensive clinical observation owing to the nurses' consistent presence in the wards and their frequent contact with the child and family. Even though the child and family members are not in their natural environment and are undergoing a state of crisis, irregularities in behavioral

norms in these circumstances are easily identified by the more experienced professionals. Covert video surveillance, pioneered by Southall et al. [40], is a powerful tool for clinical observation. However, questions regarding the ethical nature of covert video surveillance and the reliability of the evidence collected by camera led to restrictions of this method's use as a last resort, and only in very exceptional cases. The information gathered during the clinical observation period can often be measured (e.g., frequency of parental visits to the hospital) and may significantly influence the assessment process. This kind of information is also considered to have evidentiary value, and at the requests of child protection officers is frequently included in reports submitted to the court and in many cases impacts on their judgment and verdict.

Differential diagnosis

Medical personnel who evaluate children for child abuse and neglect must be familiar with the many pediatric conditions that may mimic the physical manifestations of child abuse. These include genetic, metabolic and other disorders such as: osteogenesis imperfecta (especially type IVb), glutaric aciduria, Ehlers-Danlos disease, Crohn's disease, sensory neuropathy, coagulation disorders, and skin abnormalities.

Misdiagnosis might expose the family to the risk of false accusation of child abuse, which can have disastrous and sometimes irreversible consequences for the parents and the child.

Treatment approach

The aims of the hospital intervention do not include treatment of the causes of abuse and neglect, beyond crisis intervention. Rather, this intervention can be seen as an initial stepping stone for the child and family towards participation in a long-term outpatient or community-based treatment program. Alongside the identification of the problem, hospital professionals provide the child with basic physical security and emotional support. The objective is to reduce feelings of threat and isolation and increase the sense of legitimacy for receiving help. The vulnerability of the caretakers resulting from the crisis of the hospitalization, which causes confusion, disorientation and stress, provides a point of entry for professionals. Not only does this facilitate assessment of behavioral and emotional patterns, it also provides an opportunity to engage the family in a preliminary supportive relationship that should be utilized to develop motivation for further therapy.

Conclusions

The hospital setting provides the opportunity for identification, assessment and referral of abused and neglected children. The regulations issued by the Ministry of Health, calling for the establishment of child protection teams in hospitals, recognize the ample potential within this framework for contributing to the protection and welfare of children at risk. Characteristics particular to the hospital setting provide unique opportunities and ways to collect data and to initiate the process of change. It appears however, that in Israel, both the professionals in community-based organizations and the authorities are not adequately aware of this. The result is under-utilization of this hospital service. Greater cooperation between hospitals and community services such as local welfare offices could result in speedier and more comprehensive assessments. Ultimately, this could facilitate more timely and accurate decisions addressing the needs and interests of the child. Currently, professionals of the Sheba Medical Center are collaborating with child protection officers of local welfare services, with the aim of creating an integrative work model that incorporates both hospital and community involvement in the field of children at risk.

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