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## **Special Feature Article**

### **The Role of a Pediatrician in Supporting the Measures to Prevent Fetal and Child Abuse in a Family**

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#### **Abstract**

When pediatric patients are diagnosed with chronic diseases such as asthma, they can experience intractable episodes during which control remains poor and hospitalization is required even if a drug had already been prescribed. Additionally, family background factors, such as poverty, single-parent scenarios, or mothers with mental illness, hinder the complete achievement of therapeutic effects. When instructing children with developmental disabilities to take allergy medications, it is important to understand the background of the caregiver and share the treatment decisions with the child. Social support personnel, including healthcare professionals, need to be aware of the fact that improper care affects both the onset and the course of chronic pediatric illnesses; hence, they need to engage with the patients and their families to ensure the delivery of adequate care. Thus, it is desirable to work closely with psychiatrists in charge of the child as well as the parents to share information with them and make them participate in the Regional Council for Measures for Children Requiring Protection. As abused children often grow up to become pregnant and give birth at a young age, it is necessary for both pediatricians (internal medicine) and psychiatrists to provide relevant information to obstetricians and public health nurses.

Leading efforts to prevent deaths from child abuse is the mission of pediatricians. However, 54% of child abuse-related deaths occur in infants under one year old, with 27% occurring in newborns under one month old. Many of these infants have been

subjected to fetal abuse and, in some cases, die from abuse before they have the opportunity to visit a pediatrician or undergo health checkups. It is necessary to understand the characteristics of high-risk caregivers and collaborate with obstetricians and psychiatrists to consolidate information within the administration. To prevent neonatal deaths, obstetricians should notify local public health nurses about high-risk caregivers during pregnancy, ensuring that a public health nurse accompanies the child when they visit a pediatrician for a health checkup. Furthermore, to prevent future cases of abuse-related deaths among newborns and infants, pediatricians should take the lead in establishing a regional collaboration system.

**Keywords:** childhood chronic disease, intractable disease, maltreatment, abuse death, psychiatrics-obstetrics-pediatrics perinatal collaboration

## Introduction

Inappropriate caregiving (maltreatment) includes neglect, as well as physical, sexual, and psychological abuse. When a child with a chronic disease is not progressing well, the pediatrician may notice a psychiatric disorder such as comorbid developmental disorder or inadequate care at home, from which measures against abuse begin (Fig. 1). However, abusive deaths, especially those of newborns and infants, often occur before they visit a pediatrician for illness or medical checkups, requiring a different approach from that used in typical abuse measures. In this paper, we discuss intractable cases of childhood chronic diseases, such as asthma, as examples of cases in which pediatricians can recognize abuse and

adopt countermeasures, and then discuss the prevention of perinatal abusive deaths before pediatricians are able to notice abuse during medical examinations.

## I. Support for children with childhood chronic disease and their families

The prevalence of bronchial asthma in elementary school children has decreased to 4.7%, but it is still high,<sup>9)</sup> being a typical childhood chronic disease affecting children's health. The basic treatment for asthma sufferers is daily inhalation of steroid medication, with the use of assistive devices and inhalers by caregivers for infants and toddlers, and their self-use by asthmatic school-aged children.

We have encountered intractable cases that did not improve with

conventional treatment due to poverty, developmental disorders, domestic violence, or family discord, in addition to viral infections, air pollution, or household dust mites. In cases of intractable asthma, even if steroid inhalers are prescribed, the condition remains poorly controlled, potentially leading to repeated attacks and hospitalization. The National Hospital Organization Fukuoka National Hospital (hereafter referred to as "our hospital") has an adjoining special needs school, inpatient care is provided for intractable cases, and the family environment, developmental disorders, and maltreatment (abuse) are considered by not only doctors but also nurses, nursery teachers on wards, and special needs school teachers. The following is a description of the characteristics of our patients with intractable asthma.

### 1. Family environment

At our hospital, we hold in-hospital meetings to discuss patients when there are concerns about the nurturing environment.<sup>8)</sup> From June 2013 to May 2020, 44 patients (27 males and 17 females, median age: 7.5 years, ranging from 6 months to 17 years) were included, and asthma accounted for 66% of the cases. The family backgrounds were: 45% single-parent families, 30% welfare families, and 41% caregiver

mental illness. In 1965, Asano et al. reported that asthmatic children from poor families were less likely to have their attacks resolved, while asthmatic children whose mothers visited the hospital regularly and had a strong sense of trust in treatment were more likely to have their attacks resolved.<sup>2)</sup> It is a well-established fact in pediatric asthma care that asthma treatment is less effective for poor families,<sup>4)</sup> single-parent families,<sup>7)</sup> and those involving a mother with psychiatric disorders.<sup>17)</sup>

### 2. Developmental disorders

Similar to asthma, changes in inflammatory cytokines and immunoglobulins have been found in autism spectrum disorder (ASD), and the association between the two has been investigated, but a meta-analysis reported in 2016 found no association between asthma and ASD.<sup>18)</sup> However, an association with developmental disabilities has been noted with regard to the caregiver status and prognosis. Although asthma symptoms did not change with developmental disability, depression, self-confidence, and asthma-related quality of life were worse in caregivers of asthmatic children with developmental disabilities.<sup>5)</sup> It is interesting to note that asthmatic children with ASD required more prophylactic medications, but had a better prognosis.<sup>3)</sup>

In the treatment of asthma patients, it is necessary to continue inhalation of steroid medication, and guidance is important. In such cases, family members and inhalation instructors communicate interactively with the child about the type of inhalant and use of assistive devices, so that shared decision-making (SDM) regarding inhalation methods can be made with the child. Compared with parents of asthmatic children without developmental disabilities, parents of children with attention-deficit/hyperactivity disorder have been reported to share fewer decisions with their children, and parents of children with ASD have been reported to share even fewer decisions with them.<sup>5)</sup> Therefore, when teaching asthmatic children with developmental disabilities to inhale steroids, it is important to understand the background of the child's caregivers and take a shared decision-making approach with the child.<sup>6)</sup>

### 3. Inappropriate nurturing (maltreatment)

Maltreatment affects not only the family environment, as described in section 1, but also the asthmatic child's health behaviors and psychological aspects.<sup>12)</sup> Maltreated adolescents develop unhealthy behaviors, smoking, obesity, and display other factors that

aggravate allergic inflammation and alter the hypothalamic-pituitary-adrenal system, affecting the onset and course of asthma.

Among cases of insecurity in the parenting environment that were the subject of case reviews at our hospital, 55% were cases of neglect, 34% of psychological abuse, 11% of physical abuse, and 16% of domestic violence. Maltreatment related to the disease, such as smoking and overeating, was noted in 14% of the cases.

The association between asthma attacks and psychological stress is well-known. Long-term physical and psychological maltreatment has a marked impact on a child's life and well-being. Recently, it has become clear that the brain has a susceptibility period in which each region is susceptible to stress.<sup>1)</sup> Asthma in children with intractable asthma related to maltreatment is characterized by a young onset age, slow response to initial treatment, prolonged and severe course, and complications such as developmental disorders.<sup>16)</sup> This manifestation of the disease is called an ecophenotype.

Multidisciplinary involvement is recommended for children with severe asthma. Intervention by the local child care support department or child guidance center was performed in 61% of the cases reviewed at our hospital.

Pediatricians should take the lead in working with multiple professions to help health care providers and supporters understand the impact of maltreatment on the onset and course of asthma, and engage with patients and families.

#### 4. Conclusion

The relationships among pediatric asthma care, developmental disorders, and maltreatment are shown in Figure 2. It is important to refer children with asthma who do not respond well to asthma treatment (C) as well as those with mild asthma who have developmental disorders and inadequate nursing care (B) to specialized facilities, where multidisciplinary staff can work together to reduce the severity of the condition. For children with severe asthma (D) who have developmental disorders and are inadequately cared for, it is necessary to provide the latest medical treatment, including biological preparations, and collaborate with child psychiatrists and psychiatrists of caregivers with mental disorders, as well as provide support in the community to follow them.

## II. Efforts to prevent perinatal abusive deaths in the community

According to the "Results of Verification of Deaths due to Child

Abuse (15th periodic report)" published in 2019, there were 52 deaths due to child abuse other than Murder-suicide involving a family during the year 2008, the characteristics of which are shown in Table 1.<sup>14)</sup> Infants aged 0 years accounted for 54%, with those aged 0 months in particular accounting for 27% of the total, many of them died of abuse before receiving a pediatrician's examination and health checkup, and some of them suffered from fetal abuse. The term "fetal abuse" refers to acts that may endanger the life of the fetus or cause serious health problems. In addition, 83% of abused children were not in a child-care or educational institution, and in more than 90% of cases, their physical illnesses, disabilities, and developmental problems went unnoticed. Thus, it is clear that most cases of child abuse-related deaths occur before pediatricians become involved, not because of factors on the part of the child, but because of those on the part of the caregiver.

It is the mission of pediatricians to lead efforts to prevent child abuse deaths, but what activities should pediatricians undertake to prevent these perinatal abuse deaths? The psychological and emotional problems of caregivers over a period of 13 years of child abuse deaths are summarized in Table 2.<sup>13)</sup> In the case of unexpected and

teenage pregnancies, obstetricians can provide support by reporting to the government that they are high-risk caregivers during pregnancy. In addition, the following pregnant women should be reported to the government by psychiatrists and obstetricians working together, identified by local public health nurses, and connected to pediatricians in the early stages immediately after childbirth: Pregnant women with poor nurturing ability or child-rearing anxiety who are unable to appropriately provide the necessary involvement to promote the growth and development of their children (Breastfeeding, feeding, and sanitary needs, responding to emotional demands, monitoring changes in the child's physical condition, considering safety, etc.), pregnant women with mental problems such as mental illness, impulsivity, aggression, poor control of anger, depression, and emotional upheaval, and pregnant women who are experiencing domestic violence. For smooth provision of information, it would be effective to use a common information provision form and create a system of collaboration in the community centering on pediatricians.<sup>10)</sup>

It is commendable that the number of contacts from medical institutions to administrative agencies, such as child guidance centers during pregnancy and

the perinatal period, has been increasing annually from 8 to 17%,<sup>13)</sup> but it is regrettable that the number of abusive death cases has also been increasing even with this rise. In fact, there was a case in which a mother with poor child-rearing ability fatally abused her child after returning home, even though she had gone to her parents' home after discharge from the hospital and received stable support from her grandmother. In this case, after the birth of the child, the medical institution informed the public health nurse, who monitored the child's progress, but was unable to prevent the abusive death. To prevent such cases from repeating, we would like to establish a system of cooperation in the community that can respond to changes in the living conditions of high-risk caregivers comprehensively, including increasing the available manpower.

It should be noted that the main perpetrator in abusive deaths of infants between one day and one year of age is the biological mother (43%), followed by the biological father (36%). Not enough has been done to address fathers with poor parenting skills, impulsivity, aggression, poor anger management, and high emotional volatility, and those prone to domestic violence. The Tokyo Metropolitan Government has already prepared a "Fathers' Handbook,"<sup>15)</sup> but it is important to increase fathers'

interest in child rearing from the time of pregnancy, and conduct child-rearing classes and other initiatives for fathers in the community in the same way as for mothers.

In addition, 30% of deaths were due to negligent parenting, and 26% were caused by frustration due to uncontrolled crying, especially among children under 3 years of age, when most deaths occur. In addition to support for caregivers with poor parenting skills, pediatricians need to collaborate with psychiatrists, especially when dealing with caregivers who have mental illness or are characterized by impulsivity and aggression. When pediatricians and psychiatrists treat patients from the same family, it is necessary to establish a system that facilitates direct collaboration among them.

Recently, some medical institutions have begun to include obstetricians and psychiatrists in their child abuse prevention committees to facilitate collaboration. However, collaboration among psychiatry, obstetrics, and pediatrics clinics and hospitals in the community is insufficient, and tackling this is an issue for the future. As a countermeasure, hospitals with pediatricians, psychiatrists, and obstetricians who are experienced in medical treatment for child abuse cases should be made to function as centers

and certified on a regional basis. In addition, it would be an effective countermeasure to train and certify midwives and public health nurses who are familiar with child abuse, and have them take charge of regional cooperation among hospitals.

In order to reduce the number of children who die of abuse before visiting a pediatrician, it is necessary to establish a local system to prevent child abuse by collaborating with psychiatrists and obstetricians to learn about the characteristics of high-risk caregivers and consolidate information. Together with psychiatrists and obstetricians, we should provide support so that children who have been maltreated can also become parents, breaking the cycle of repeated inappropriate fostering, and thus nurture healthy parents and children (Fig. 3).

### Conclusion

We would like to establish a regional system that promotes immediate collaboration when pediatricians become aware of maltreatment through chronic illness, or when psychiatrists and obstetricians want to seek support for patients who are likely to become high-risk caregivers. We believe that collaboration among psychiatrists, obstetricians, and pediatricians at academic conferences and in the

community will lead to the nurturing of caregivers who will be responsible for raising children in the future, and thus to the prevention of abuse.

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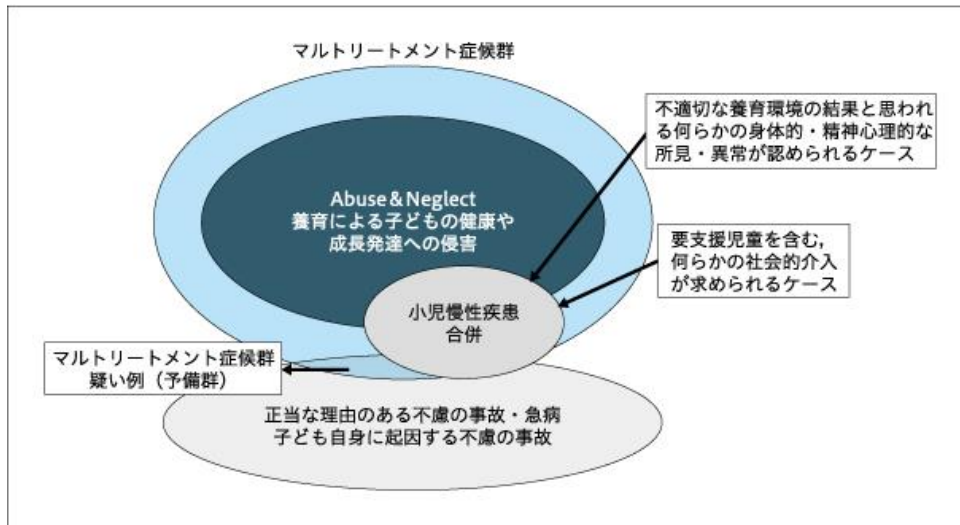


図1 アレルギー疾患・肥満などの慢性疾患の難治化による子どもの健康や成長発達への侵害から不適切な養育が気づかれる  
(文献 11 より改変して引用)

Figure 1: Maltreatment is identified due to adverse effects on children's health, growth, and development caused by intractable chronic diseases such as allergic diseases and obesity.

(Adapted with modifications from Reference 11)

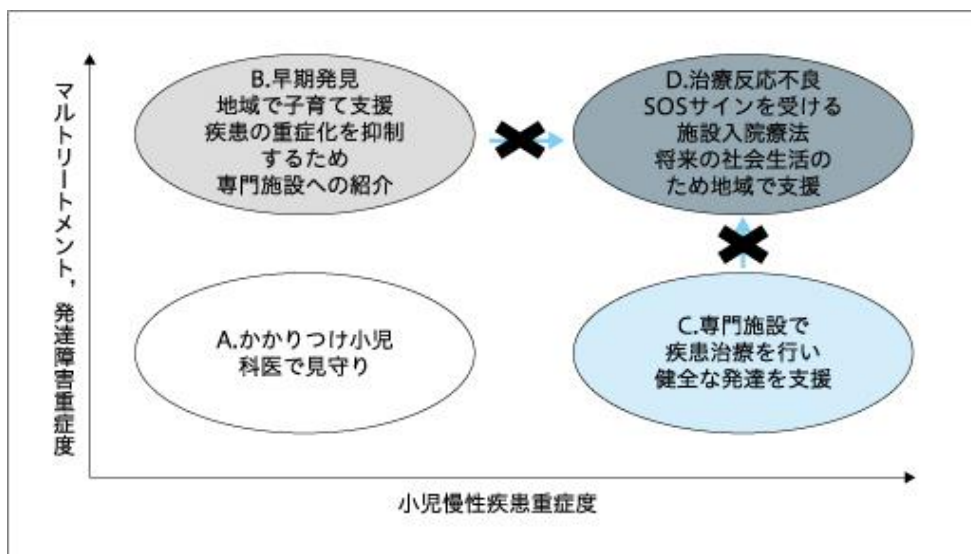


図2 小児慢性疾患医療と発達障害、マルトリートメントの関係  
(文献 16 より引用)

Figure 2: Relationships among childhood chronic disease care, developmental disorders, and maltreatment.

(Adapted from Reference 16)

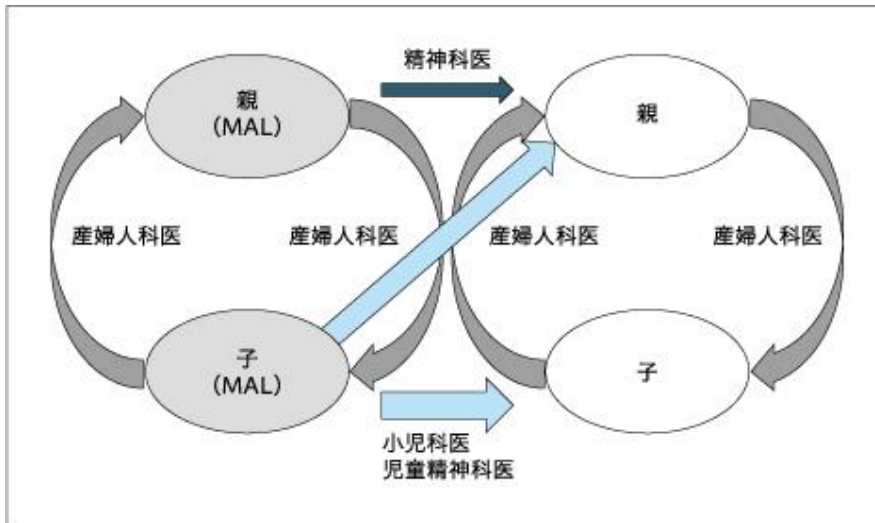


図3 胎児・児童虐待対策・予防に向けた家族支援における  
産婦人科医・小児科医・精神科医のコラボレーション  
MAL：マルトリートメント症候群

Figure 3: Collaboration among obstetricians, pediatricians, and psychiatrists in family support for prevention and countermeasures against fetal and child abuse.  
MAL: Maltreatment Syndrome

**表1 子ども虐待による死亡事例のまとめ（心中以外の虐待死 52 例）**

- ・子どもの年齢：0 歳が 54%，なかでも月齢 0 ヲ月が全体の 27% を占めていた。
- ・主な虐待の累計（3 歳未満）：身体的虐待 41%，ネグレクト 43%。
- ・直接の死因（3 歳未満）：頭部外傷 36%。
- ・主たる加害者：（0 日）実母 79%，（1 日～1 歳未満）実母 43%，実父 36%。
- ・加害の動機（3 歳未満）：保護を怠ったことによる死亡 30%，泣き止まないことへのいらだち 26%。
- ・子どもの養育機関・教育機関所属：83%が所属なし。
- ・子どもの疾患・障害など：身体疾患，障害，発達の問題（発達障害，自閉症），身体発達の問題（痩せ，低身長）は 90～96%がなしもしくは不明であった。

（文献 14 より作成）

Table 1: Summary of deaths due to child abuse (52 abuse deaths, not including family suicides)

- ・Age of children: 54% were 0 years old, and 27% were 0 months old.
- ・Total number of major abuse cases (under 3 years old): Physical abuse, 41%; Neglect, 43%.
- ・Direct cause of death (under 3 years old): Head injury, 36%.
- ・Main perpetrators: (0 days) 79%, biological mothers; (1 day - under 1 year old) 43%, biological mothers; 36%, biological fathers.
- ・Motive for abuse (under 3 years old): Death due to negligence of protection, 30%; Irritation due to uncontrolled crying, 26%.
- ・Affiliation with child's foster/educational institution: 83% had no affiliation.
- ・Diseases and disabilities of children: Physical diseases, disabilities, developmental problems (developmental disabilities, autism), and physical developmental problems (thinness, short stature) were absent or unknown in 90-96% of cases.

(Compiled from Reference 14)

**表 2 子ども虐待死亡事例（心中以外の虐待死）における養育者の心理的・精神的問題（2017年までの13年間のまとめ）**

<p>実母：養育能力の低さ 29%，育児不安 26%，医師の診断による精神疾患，衝動性，攻撃性，怒りのコントロール不全，うつ状態，感情の起伏が激しい，DVを受けているがそれぞれ 9～12% に認められた。</p>
<p>実父：養育能力の低さ 19%，衝動性，攻撃性，怒りのコントロール不全，感情の起伏が激しい，DVを行っているがそれぞれ 9～14% に認められた。</p>
<p>妊娠期・周産期の問題：予期しない妊娠 27%，10代の妊娠 18%，妊婦検診未受診 26%，遺棄 27%であった。</p>

（文献 13 より作成）

Table 2: Psychological and emotional problems of caregivers in child abuse deaths (Abusive deaths other than family suicides) (summary for 13 years until 2017)

- Biological mothers: Poor parenting skills (29%), parenting anxiety (26%), doctor-diagnosed mental illness, impulsivity, aggression, inability to control anger, depression, severe emotional ups and downs, and DV victimization (9-12% each) were recognized.
- Biological fathers: Poor parenting skills (19%), impulsivity, aggression, inability to control anger, severe emotional ups and downs, and DV perpetration (9-14% each) were recognized.
- Gestational and perinatal problems: 27%, unexpected pregnancies; 18%, teenage pregnancies; 26%, no antenatal checkups; 27%, abandonment.

(Compiled from Reference 13)