
Family Practice Grand Rounds

Evaluation, Treatment, and Follow-Up of Child Abuse

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DR. LOUIS KETTEL (*Dean, College of Medicine*): Today's discussion will focus on a difficult clinical problem encountered with increasing frequency in primary care: child abuse. Such cases tax the physician's clinical skills and sensibilities. They require multidisciplinary approaches and medical, social, and legal interventions. What role should physicians and concerned citizens in the 1980s play?

DR. RONALD FISCHLER (*Assistant Professor, Family and Community Medicine and Pediatrics*): Michael, aged 18 months, was admitted to Arizona Health Sciences Center in July 1979 in semicomatose with bruises on his face, scalp, ears, and shoulder. X-rays and a computed tomographic (CT) scan showed multiple new skull fractures, brain contusion, and two unexplained rib fractures estimated to be two to four months old. The mother stated that Michael was normal at his 8 PM bedtime but was alone with the mother's fiancé, Harold, until midnight. At 7 AM she found Michael with the injuries mentioned and rushed him to the Emergency Room. Harold offered no explanation for what happened.

Michael was the product of a term pregnancy to an unwed mother (gravida 3, para 2, therapeutic

abortus 1) whose intrauterine device had failed. Both the pregnancy and the delivery were uncomplicated. Bottle fed, Michael was brought to the clinic three times within the first months of life with feeding difficulties and spitting, but the examinations were normal. The mother was noted to be extremely anxious. Over the next 15 months, eight clinic visits occurred for minor acute illnesses. Significant family stress and inconsistent caretakers were identified as major problems, but no intervention occurred until Michael was admitted with severe injuries.

During Michael's hospitalization, a social evaluation elicited the following: the mother, Fran, is 26 years old and had been adopted. Despite a description of a warm and close childhood relationship with her parents, she relates a history of a turbulent adolescence with hysterical seizures, psychiatric hospitalizations, a period in detention, and a suicide attempt. She was later raped by eleven men and became pregnant and had a child. There were frequent moves and she finally could not care for the child and gave him up for adoption to friends at two and one half years of age. She subsequently had a therapeutic abortion. Fran met her current boyfriend, Harold, at a bar and planned to marry him, had Michael not been admitted to the hospital one day before the scheduled wedding. During the social work interview Fran described Michael as a "brat" who is clinging and dependent, jealous of Harold or anyone else who gets close to her. Michael shared a bedroom with Fran until Harold moved in. Fran admitted to a drinking problem and a violent temper

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Use in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated: sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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but denied ever losing control with Michael.

Harold is 30 years old, was also adopted, and claims to have had a good childhood relationship with his parents. He married the girl next door, she became pregnant, and he went to Vietnam. When he returned two years later, they were divorced. He has had irregular employment since, and he injured his hand at work one month before Michael's hospitalization. Harold admits to a violent temper but denies losing control with Michael.

In the Intensive Care Unit, Michael remained in semicoma for two days and then made a gradual recovery. At the time of discharge, three weeks later, he had a mild left hemiparesis, used two single words (hi, bye), walked unsteadily, fed himself partially, and demonstrated some oppositional behaviors. He appeared friendly to strangers, afraid of Harold, and indifferent to his mother. His mother was observed to be anxious and inconsistent in her interactions with Michael, at times consoling, at other times rejecting. The diagnosis of child abuse was made, and it was decided that Michael could not be safely cared for at home with his mother. He was made a ward of the court and placed in foster care. The treatment plan, agreed to by the attending physician, hospital social worker, and Child Protective Services worker included the following:

1. Foster care was to be provided for Michael with at least twice-weekly visits with the mother, supervised by the Child Protective Services social worker.
2. Help was to be provided for the mother so that she could learn to provide safe and effective parenting and regain custody of Michael. She was referred for individual counseling, to Alcoholics Anonymous, and to a parenting group.

Michael made a poor adjustment in his first foster home. The experienced foster mother, who was under stress caring for five children, was extremely frustrated with his clinging and whining behaviors. At the six-week check-up, both Michael and the foster mother appeared depressed, and it was recommended that another foster placement be found. Michael functioned in the borderline retarded range on developmental testing but had normal hearing and a normal neurologic examination. His mother failed to follow through with any treatment and proceeded to marry Harold.

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Harold was intensively interrogated by the police, failed a lie detector test, and began hallucinating, but continued to deny knowledge of what happened. No charges were filed.

Michael made a satisfactory adjustment in his second foster home, where he remained for a year. Tantrums, nightmares, clinging, and whining disappeared after ten days of placement when he was offered much cuddling and support by the new foster mother. Fran, on threat of losing custody, finally began attending treatment sessions regularly and enrolled in the parents group. Visits with Michael, although initially tense, began to be enjoyable for both. Harold later admitted to causing Michael's injuries, and charges were filed by the police. He was convicted of child abuse and placed on probation, contingent upon his continuing in treatment, avoiding contact with the child, and obtaining gainful employment. He followed through with each condition.

Approximately nine months after placement in the second foster home, Michael's development was normal. He no longer appeared depressed and demonstrated strong attachments both to the foster mother and to his natural mother. Three months later, his foster home placement was disrupted, precipitated by the departure of a nine-year-old foster child, who was returned to her natural family. Michael's whining, crying, clinging, and nightmares reappeared. However, on this occasion the foster mother, who was experiencing considerable grief both at the loss of the first foster child and at the realization that eventually she would lose Michael as well, was unable to comfort him. Instead, she punished him for these behaviors by hitting him with a wooden spoon 10 to 20 times per day. Attempts to provide counseling for the foster family were unsuccessful, as the foster care system has no resources for this type of problem. Since the mother was not yet ready to assume custody, Michael was moved to his third foster home.

Over the next six months, Fran continued to make progress and Harold also continued with work, counseling, and avoiding contact with Michael. Michael was returned to his mother on the condition that Harold move out. Harold moved out, and 18 months following his injuries, Michael was returned to the physical custody of his mother. Contact with Harold was gradually intro-

duced under supervision by Child Protective Services, and approximately six months later the family was reunited. The family continues to see a counselor approximately once per month. Michael attends preschool, and his health and developmental status continue to be normal. His mother continues to work part-time and is completing her general high-school equivalency diploma with hopes of entering college. Harold changed jobs but continues regular employment.

DR. GEORGE COMERCI (*Professor of Pediatrics and Family Medicine*): It was not until 1962 that Drs. Kempe and Helfer, at the University of Colorado, reported the "battered child syndrome" and called upon health professionals to recognize and report victims.

It is often difficult to convince people who care for children of the magnitude of the problem. Death from physical abuse is a leading cause of death in infants in the first year of life. Of infants under one year of age who present with physical injury to a typical urban emergency room, one out of four will be victims of nonaccidental trauma.

The first responsibility of the health professional is to be aware of the problem and to be appropriately alert to the diagnosis. The criteria for diagnosis of nonaccidental trauma include (1) an injury without adequate explanation, or for which the history is not in keeping with the extent of the injury, (2) multiple fractures in different stages of healing, and (3) abnormal caretaking behavior on the part of parents. Parents who have abused their children often demonstrate highly inappropriate reactions to the injuries. They may act unconcerned about how serious the injuries are or about what is going to happen to their child, or they may rush to ask when they can leave the hospital.

In taking the history, the physician should ask how and when the injury occurred to determine whether the explanation is adequate or inadequate. The emphasis should be on how the injury occurred, not on who perpetrated the injury. Physicians should record in detail the history obtained from each parent, and from the child, if he or she is old enough to give an account. The physician must exclude alternative explanations, such as bleeding disorders or underlying bone diseases or interrupted sudden infant death syndrome, in making the diagnosis of suspected nonaccidental trauma. A careful past history of previous trauma and

open-ended questions to ascertain the parent's perception of the child are helpful. A careful physical examination with attention to the earlobes and mouth, genital areas, and extremities, along with plotting the infant's growth and performing developmental screening, is essential. In a child suspected of nonaccidental trauma, x-ray examination of the skull, ribs, long bones, and spine may disclose unsuspected injuries. It is often helpful to have color photographs taken as soon as possible after admission and carefully labeled. Documentation of location, shape, and color of bruises, using a body diagram, is helpful. Careful attention to legal requirements following the chain of evidence (as in rape, for example) is important.

The next responsibility of the health professional is to protect the child. Such protection usually begins, with infants and young children, with admission to the hospital. Following the necessary emergency medical or surgical care, physicians must report the case to Child Protective Services or to the police. The emergency room or clinic is not the place for confrontation, anger, accusations, or interrogation. Instead, parents should be informed of the physician's legal requirement to report injuries that are not adequately explained.

Always keep the parent informed about what is happening. Abusive parents usually care about their child and want help. Experts in child abuse are generally available, as are consultants in hematology or metabolism, when confusion exists about whether a rare disease is present. Most radiologists can readily distinguish between traumatic bony injuries and underlying bone disease and can date old fractures. Once the child's immediate safety is assured, further social, developmental, and psychiatric consultations and treatment planning can occur.

DR. ALAYNE YATES (*Chief of Child Psychiatry*): I was initially consulted, following Michael's hospitalization, to perform a family assessment and make recommendations about treatment planning to the court and Child Protective Services. I found that Fran and Harold had formed a dysfunctional relationship characterized by frequent arguments and mutual criticism. Fran expressed her anger through drinking and leaving home. Harold expressed his anger by freeloading and by blaming Fran for not being a good parent to Michael. Although Harold presented himself as a model citizen, in actuality he was exhausting

Fran's meager emotional and economic resources. Harold was especially irritated by having to babysit Michael while Fran worked. Her bar-hopping further intensified Harold's rage, which may well have been displaced to Michael. Michael contributed to this pattern through whining, clinging, and jealous behaviors.

As a result of the initial evaluation, I recommended that Michael not be returned home while Harold was in the family, as Harold demonstrated a major personality dysfunction: passive-aggressive personality disorder. This disorder connotes pervasive and longstanding social and occupational ineffectiveness. Such individuals procrastinate and often rationalize or blame others for their inadequacies; they often consult physicians to qualify for disability payments. These people are "takers" rather than "givers" who may become angry and aggressive when under stress.

In spite of her history, I felt that Fran demonstrated the greater potential for change because of her evident and persistent concern for Michael. She was honest in recognizing her inadequacies, expressed a desire for help, and seemed motivated for therapy.

Eight months following the initial evaluation, I was asked to re-evaluate Fran and Harold. In the interim, Harold had confessed to and been convicted of child abuse. Harold and Fran had married, were involved in multiple therapies, and with sentencing at hand, Harold was cooperative with therapy, claiming a miraculous personality metamorphosis. Their relationship had gained stability as both focused on gaining Michael's return home. Fran's self-esteem had improved, and she was better able to mother Michael. In the meantime, Michael had suffered multiple foster placements and further emotional trauma. No one, other than Fran, was firmly committed to Michael. The system had clearly been detrimental to Michael's well-being. I felt that the least harmful alternative for Michael was to be reintegrated in his mother and stepfather's home with continued close supervision by Child Protective Services supervision and the understanding that Harold would remain on probation.

DR. FISCHLER: What is an optimal outcome for child abuse? How can such a story end happily? First, the child's placement should be safe and secure in a family he comes to identify as his

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ALDOMET® (Methyldopa | MSD)

Tablets, containing 125, 250, or 500 mg methyldopa; Oral Suspension, containing 250 mg methyldopa per 5 ml and alcohol 1%.

Contraindications: Active hepatic disease, such as acute hepatitis and active cirrhosis; if previous methyldopa therapy has been associated with liver disorders (see Warnings); hypersensitivity.

Warnings: It is important to recognize that a positive Coombs test, hemolytic anemia, and liver disorders may occur with methyldopa therapy. The rare occurrences of hemolytic anemia or liver disorders could lead to potentially fatal complications unless properly recognized and managed. Read this section carefully to understand these reactions. With prolonged methyldopa therapy, 10% to 20% of patients develop a positive direct Coombs test, usually between 6 and 12 months of therapy. Lowest incidence is at daily dosage of 1 g or less. This on rare occasions may be associated with hemolytic anemia, which could lead to potentially fatal complications. One cannot predict which patients with a positive direct Coombs test may develop hemolytic anemia. Prior existence or development of a positive direct Coombs test is not in itself a contraindication to use of methyldopa. If a positive Coombs test develops during methyldopa therapy, determine whether hemolytic anemia exists and whether the positive Coombs test may be a problem. For example, in addition to a positive direct Coombs test there is less often a positive indirect Coombs test which may interfere with cross matching of blood. At the start of methyldopa therapy, it is desirable to do a blood count (hematocrit, hemoglobin, or red cell count) for a baseline or to establish whether there is anemia. Periodic blood counts should be done during therapy to detect hemolytic anemia. It may be useful to do a direct Coombs test before therapy and at 6 and 12 months after the start of therapy. If Coombs-positive hemolytic anemia occurs, the cause may be methyldopa and the drug should be discontinued. Usually the anemia remits promptly. If not, corticosteroids may be given and other causes of anemia should be considered. If the hemolytic anemia is related to methyldopa, the drug should not be reinstated. When methyldopa causes Coombs positivity alone or with hemolytic anemia, the red cell is usually coated with gamma globulin of the IgG (gamma G) class only. The positive Coombs test may not revert to normal until weeks to months after methyldopa is stopped.

Should the need for transfusion arise in a patient receiving methyldopa, both a direct and an indirect Coombs test should be performed on his blood. In the absence of hemolytic anemia, usually only the direct Coombs test will be positive. A positive direct Coombs test alone will not interfere with typing or cross matching. If the indirect Coombs test is also positive, problems may arise in the major cross match and the assistance of a hematologist or transfusion expert will be needed.

Fever has occurred within first 3 weeks of therapy, occasionally with eosinophilia or abnormalities in liver function tests, such as serum alkaline phosphatase, serum transaminases (SGOT, SGPT), bilirubin, cephalin cholesterol flocculation, prothrombin time, and bromsulphalein retention. Jaundice, with or without fever, may occur, with onset usually in the first 2 to 3 months of therapy. In some patients the findings are consistent with those of cholestasis. Rarely fatal hepatic necrosis has been reported. These hepatic changes may represent hypersensitivity reactions; periodic determination of hepatic function should be done particularly during the first 6 to 12 weeks of therapy or whenever an unexplained fever occurs. If fever and abnormalities in liver function tests or jaundice appear, stop therapy with methyldopa. If caused by methyldopa, the temperature and abnormalities in liver function characteristically have reverted to normal when the drug was discontinued. Methyldopa should not be reinstated in such patients. Rarely, a reversible reduction of the white blood cell count with primary effect on granulocytes has been seen. Reversible thrombocytopenia has occurred rarely. When used with other antihypertensive drugs, potentiation of antihypertensive effect may occur. Patients should be followed carefully to detect side reactions or unusual manifestations of drug idiosyncrasy.

Pregnancy and Nursing: Use of any drug in women who are or may become pregnant or intend to nurse requires that anticipated benefits be weighed against possible risks; possibility of fetal injury or injury to a nursing infant cannot be excluded. Methyldopa crosses the placental barrier, appears in cord blood, and appears in breast milk.

Precautions: Should be used with caution in patients with history of previous liver disease or dysfunction (see Warnings). May interfere with measurement of: urinary uric acid by the phosphotungstate method, serum creatinine by the alkaline picrate method, and SGOT by colorimetric methods. Since methyldopa causes fluorescence in urine samples at the same wavelengths as catecholamines, falsely high levels of urinary catecholamines may be reported. This will interfere with the diagnosis of pheochromocytoma. It is important to recognize this phenomenon before a patient with a possible pheochromocytoma is subjected to surgery. Methyldopa is not recommended for patients with pheochromocytoma. Urine exposed to air after voiding may darken because of breakdown of methyldopa or its metabolites.

Stop drug if involuntary choreoathetoid movements occur in patients with severe bilateral cerebrovascular disease. Patients may require reduced doses of anesthetics; hypotension occurring during anesthesia usually can be controlled with vasopressors. Hypertension has recurred after dialysis in patients on methyldopa because the drug is removed by this procedure.

Adverse Reactions: *Central nervous system:* Sedation, headache, asthenia or weakness, usually early and transient; dizziness, lightheadedness, symptoms of cerebrovascular insufficiency, paresthesias, parkinsonism, Bell's palsy, decreased mental acuity, involuntary choreoathetoid movements; psychic disturbances, including nightmares and reversible mild psychoses or depression. *Cardiovascular:* Bradycardia, prolonged carotid sinus hypersensitivity, aggravation of angina pectoris. Orthostatic hypotension (decrease daily dosage). Edema (and weight gain) usually relieved by use of a diuretic. (Discontinue methyldopa if edema progresses or signs of heart failure appear) *Gastrointestinal:* Nausea, vomiting, distention, constipation, flatulence, diarrhea, colitis, mild dryness of mouth, sore or "black" tongue, pancreatitis, sialadenitis. *Hepatic:* Abnormal liver function tests, jaundice, liver disorders. *Hematologic:* Positive Coombs test, hemolytic anemia. Bone marrow depression, leukopenia, granulocytopenia, thrombocytopenia. Positive tests for antinuclear antibody, LE cells, and rheumatoid factor. *Allergic:* Drug-related fever, lupus-like syndrome, myocarditis. *Dermatologic:* Rash as in eczema or lichenoid eruption; toxic epidermal necrolysis. *Other:* Nasal stuffiness, rise in BUN, breast enlargement, gynecomastia, lactation, hyperprolactinemia, amenorrhea, impotence, decreased libido, mild arthralgia, myalgia.

Note: Initial adult dosage should be limited to 500 mg daily when given with antihypertensives other than thiazides. Tolerance may occur, usually between second and third months of therapy; increased dosage or adding a diuretic frequently restores effective control. Patients with impaired renal function may respond to smaller doses. Syncope in older patients may be related to increased sensitivity and advanced arteriosclerotic vascular disease; this may be avoided by lower doses.

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own, whether this is his natural family or a suitable adoptive family. After all the disruption experienced by the abused child, it is most important that he achieve the sense of security derived from a permanent placement. Second, the child's potential for normal development must be restored. Any developmental delays and behavior problems must be treated, and he should develop strong attachments to his principal caregivers. Third, family function should be restored to at least a level where the likelihood of reabuse is minimized on a long-term basis, where re-entry into the protective service system or the criminal justice system is unlikely.

Child abuse has been found to be unusually common in the early histories of adults with significant maladjustment, including juvenile delinquents, violent criminals, prostitutes, child abusers, institutionalized persons, and teenage runaways.

Child abuse accounts for 5,000 to 10,000 deaths annually in the United States, representing about 0.5 percent of all reported cases. Permanent disability occurs in a similar number. By far the most frequent problems seen in abused children are the emotional and psychological scars from growing up in an abusive environment. Most abused children show significant developmental problems with delays in cognition, language, behavior, and interpersonal relationships, as Michael demonstrated. These problems are amenable to treatment if recognized early and appropriate intervention is begun. Because abused children have been emotionally as well as physically traumatized, their behaviors may be difficult, even provocative, and it may take a long time before they learn how to return affection. Thus, abused children are often difficult in foster care and require close follow-up and often specific treatment. Usually this involves obtaining a stable and appropriate home environment, parent counseling on behavior management, and for some, play therapy. Without treatment, behavior problems tend to recur in subsequent placements, as happened with Michael.

A recent major follow-up study summarizes the current state of child abuse treatment.¹ The study evaluated 2,000 abused children in protective services. Sixteen percent suffered severe injuries, although developmental and behavioral problems occurred in the majority. Treatment was conducted over a 6- to 12-month period. Fifty percent of the

children were considered to have improved, 25 percent showed no change, and 25 percent became worse. Strikingly, 30 percent were reabused severely during treatment. Families fared no better; only 42 percent were considered to have improved and showed a decreased risk of abuse at the end of treatment compared with the beginning.

Treatment of child abuse is also not without harm, especially when it involves removal of a child from the home. In Arizona in 1980, the average foster child spent three years in care and endured more than five placements each (Boyd Dover, personal communication, January 1981). These findings are corroborated elsewhere. After five years, a New York study showed one half of abused children were still in foster care, and one half of these were not visited by their parents.² Unstable long-term foster care does not provide enough security for the child's normal development. The treatment of child abuse carries its own risks, and the child must be followed carefully during treatment. The primary care physician, in close communication with consultants from mental health, child development, and Child Protective Services, is in an excellent position to monitor treatment. A happy ending can be achieved, but it depends upon the continuing hard work of many from several fields who share one commitment: to speak for abused children who cannot speak for themselves.

MR. BOYD DOVER (*Director, Child Protective Services, Tucson*): Child Protective Services is mandated with the legal responsibility to investigate all reports of abuse and neglect. It might seem, from reviewing this case, that numbers of professionals are involved, that it is a very well organized and functioning system, and that all alternatives are developed and evaluated. This is not true. It is totally impossible to do that, a fact I am not happy to report.

One of the frequent charges leveled against Child Protective Services is that we continually do one of two things. Either we leave children in potentially abusive situations too long, and they end up being severely abused, or we remove them too fast and place them in our system without justification.

I do not know of any professional in the human services field who has a more difficult job than a protective service worker, probably the most important point I would like to make today. In this

community of nearly one-half million, we receive between three and four hundred telephone calls per month in regard to child abuse, neglect, or abandonment. We have the capability with existing staffing patterns to investigate personally about one half of these calls. By necessity, there must be a priority system that makes a report of a scalding in a bathtub more crucial than an unsupervised child in a dirty home.

Our child care system is in a critical state. We do not have sufficient shelters for children needing temporary care. Sometimes it appears that the system that is developed and defined by law to protect a child may be potentially more abusive than the situation from which that child would be or had been removed. Changes in the new administration have caused social service programs to be cut, and the impact is felt by all protective service units at a time when reports for suspected abuse continue to rise. As concerned citizens in the community, you need to know that right now the system is not working and needs your help.

DR. KETTEL: Dr. Johnson, from the perspective of a pediatrician on the front lines, how would you react to today's presentation?

DR. HELEN JOHNSON (*Assistant Professor of Pediatrics*): I think we are doing a good job now with recognition and reporting of child abuse. What we do afterward remains the most difficult part of the job and the one yet to be done well. We can no longer assume when we report a case that the system will take over and all will be well. These children need close follow-up by pediatricians and family physicians who are alert to their ongoing health and developmental problems and are in close communication with Child Protective Services.

DR. KETTEL: What is the demography of child abuse? Is there a population that is more susceptible?

DR. JOHNSON: Child abuse cuts across all economic groups and all educational levels. Stress appears to be greater in lower socioeconomic groups and the capacity to cope with stress is also reduced.

DR. FISCHLER: Such factors as family stress, a history of poor coping with stress, poor perception of child care (as occurs when parents themselves were abused), and isolation from a social network have been associated with high risk of

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References:

1. Stone PH, Turi ZG, Muller JE: Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104:672-681, September 1982.
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BRIEF SUMMARY

PROCARDIA® (nifedipine) CAPSULES

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INDICATIONS AND USAGE: I. **Vasospastic Angina:** PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. **Chronic Stable Angina (Classical Effort-Associated Angina):** PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request.

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 **LABORATORIES DIVISION**
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child abuse. Unwanted pregnancy, poor adjustment to pregnancy, teenage pregnancy, inappropriate maternal-infant interactions, and perception of the child as "difficult" are additional risk factors correlated with abuse. Although these factors are helpful clues, no one has succeeded at developing a reliable instrument to predict child abuse.

DR. KETTEL: Can we prevent child abuse?

DR. FISCHLER: Three levels of prevention have been applied to child abuse. *Primary prevention* implies preparing prospective parents for the tasks of parenting: at home, at school, during prenatal care by offering family-centered perinatal care, and in well-child care. *Secondary prevention* means identifying children and families at risk and intervening to prevent serious complications. In Michael's case, there were numerous red flags that unfortunately went unheeded by the physicians caring for him during his first year of life. Had they been picked up and led to appropriate assessment and treatment, perhaps his battering could have been prevented. *Tertiary prevention* implies that once a child has been abused, further complications such as reabuse or the trauma of unstable or interminable foster care are prevented in the hope of achieving a good long-term outcome. At every level, physicians caring for mothers and children have an opportunity to focus attention on helping families adjust to child rearing. There are now widely available texts on parenting, courses for professionals and parents, parent support groups, and mental health professionals skilled in assessment and treatment of family dysfunctions.

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Suggested Reading

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