



potassium 3.1 mEq/L, chloride 113 mEq/L, and bicarbonate 12 mEq/L. These data are consistent with the diagnosis of renal tubular acidosis. The child was begun on modified Shohl's solution. Since institution of the appropriate therapy, the child has made dramatic growth improvement and presently is above the 10th percentile for his age. On 12.5 mL of Shohl's solution four times daily his serum bicarbonate is normal.

Comment

This case illustrates the usefulness of obtaining a genogram as a routine part of the patient's history. In this particular patient a diagnosis had been delayed because it was not known that the child had distant relatives with renal tubular acidosis, and the diagnosis was not suspected. In this and in a number of other cases seen in which a diagnosis either was not suspected or was suspected, but difficult to confirm, the genogram has been invaluable. Consequently, it is advocated that a genogram be obtained for every patient, especially for those patients who pose difficult diagnostic problems.

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Teaching Family Practice Residents to Identify and Treat Battered Women

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In recent years the medical and psychological problems of battered women have come to the attention of the medical community. Current research places the degree of the abuse as occurring

in one out of six couples.¹ The startling numbers of physically abusive relationships have triggered a response in the medical community. Protocols for emergency room treatment of abuse have been developed at hospitals and medical schools, often with the cooperation of community agencies who help battered women.²⁻⁵ However, the recognition of abuse in a non-emergency-room setting and the implementation of appropriate response in the family practice setting have not been addressed.

Continued on page 712

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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 choreoathetotic 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 choreoathetotic 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, flatus, 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.

For more detailed information, consult your MSD Representative or see Prescribing Information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486

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Continued from page 708

The following clinical teaching program was designed to provide family practice residents with the skills to diagnose an abusive relationship, to develop a treatment plan, and to test resident effectiveness by using simulated patients.

Methods

Two seminars on domestic violence were presented, using the learned helplessness model developed by Seligman,⁶ described in greater detail by Symonds,⁷ as a theoretical model. The first seminar, given by staff from a battered women's counseling center, reviewed the scope of the problem, treatment interventions, and available data on how patients may present to physicians. Effective interviewing techniques were presented. Two former battered women described their experiences and answered questions. Clinically relevant interventions were summarized in a physician behavior checklist* developed by the faculty and residents. The checklist goals included inquiry about abuse and its history, education and support of the patient, and assistance in formulating a plan for the physical safety of the patient and her children.

At the second seminar held four months later, the checklist was reviewed with the residents, and an assessment plan was developed using simulated patients. The residents suggested that the simulated patients should be scheduled as new clinic patients, unknown to them, to provide the most accurate assessment of their ability to recognize and treat abuse.

A group of simulated patients were trained using actual histories of battered women. The simulators presented with vague somatic complaints and were unwilling to reveal that they were abused unless questioned directly.** An additional four months elapsed before simulated patients were scheduled for clinic visits. Nursing staff were aware of the simulations and cooperated

Continued on page 715

*Available from authors upon request.

**Samples of the simulated patient scripts are available from the authors on request.

Continued from page 712

by not divulging to the residents the nature of the patient visit. Residents performed their interview and examination, ordered tests and prescriptions, and left the examining room. At this point the simulated patient filled out the assessment checklist. The resident and faculty member then held a 20-minute debriefing session with the simulator, who provided immediate feedback about the patient visit. Prior to being contacted by the faculty member, none of the residents had been aware that they had just interviewed a simulated patient.

Results

Included in the study were 16 residents, 8 first-year and 8 second-year. The 8 third-year residents, although they attended the seminars, were excluded from the simulations because they were not receiving any new patients in their practices. Of those who discovered that the simulated patient was in an abusive situation, 70 percent had attended the seminars; and of those who did not make the diagnosis, 67 percent had attended the seminars. Thus, seminar attendance was not a factor in discovering abuse. Self-selection may have been a factor as those who chose not to attend either seminar (5 out of 16 residents) may have been well-informed about battered women.

Although the actual discovery of abuse did not differentiate the two groups of residents, follow-through on the treatment plan was quite different. Residents who had attended seminars showed a more complete and specific plan for the abused woman than those who did not attend. Several specific differences deserve mention.

Of the 10 residents who diagnosed abuse, 4 gave no medications, 2 gave appropriate medication for migraine-like symptoms described by one patient-simulator, and 4 gave prescriptions (Valium, Dalmane, Fiorinal, and Darvocet). Thus, 40 percent of the women who had abuse diagnosed were given unnecessary prescriptions. Of the six women whose abuse was not diagnosed, five (83 percent) were given a prescription. Medications prescribed included Soma, Norgescic Forte, Fiorinal, and Elavil. Although the numbers in the study are too small to merit statistical tests of significance, there is a clear indication that physicians who did not

correctly uncover an abusive situation frequently provided inappropriate medications that may cause additional problems for the patient.

The treatment protocol specifically required residents to ask about alcohol use both by the spouse or partner and by the woman herself, as alcohol is often a concomitant of physical violence.^{8,9} Seventy-three percent of those who had attended the seminars asked about alcohol use in their interviews, whereas only 40 percent of those who had not attended seminars asked about alcohol use.

Additional data were sought about the abuse of children. Forty-five percent of those who attended the seminars asked about the presence of children in the family and their safety. Only 20 percent who had not attended seminars had inquired about this problem.

Finally, when abuse was not diagnosed, the psychosocial history was lacking or incomplete. Specific checklist questions covered current living situation, marital functioning, employment, financial stresses, and recent illnesses or stresses among family members. The seminars affected the specificity and thoroughness of both the interview and the treatment plan.

Comment

Simulated patients offered face-to-face evaluation of the resident's specific skills in the interview and physical examination. For the time and money expended, a cost-effective way of providing high-quality clinical teaching was demonstrated. Several important areas of management were identified, including the appropriate use of medications, alcoholism history, possible risk of child abuse, and inclusion of a thorough psychosocial history.

The time sequences involved in the teaching program provided an additional means of strengthening learning by keeping the residents alert to possible abusive relationships while anticipating the simulated patients and again during the period following the simulations and feedback. This time frame enhanced their efforts to practice new skills.

The checklist and simulations proved effective teaching tools, providing a specific protocol to residents for clinical intervention about a specific patient problem. This approach is applicable to a

wide variety of problems in clinical medicine requiring assessment of resident learning.

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The Rural Preceptorship as a Factor in the Residency Selection: The Nebraska Experience

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The medical student preceptorship is an integral part of undergraduate training in family medicine at many US medical schools. Patterned after the apprenticeship training programs used for many years in England and Scotland, preceptorships in this country have been variously in and out of favor as a teaching method.¹ Since the 1950s there has been renewed interest in the preceptorship concept as a teaching method in undergraduate family medicine training. The preceptorship concept is valued because of the role model provided for the student both by the supervising physician and by the practice itself. At no other point in training does a medical student have an opportunity to work and learn in a setting more closely resembling the actual practice of family medicine than in the preceptorship rotation.

The question of the value of a preceptorship program in influencing students to undertake resi-

dency training in family practice is one that has not been answered completely. Presented here are the results of a three-year survey of first-year house officers who had completed a rural preceptorship through the University of Nebraska Family Practice Department.

Background

A preceptorship program has been in place at the University of Nebraska Medical Center (UNMC) since 1949. The original program used 30 practicing physicians outside the metropolitan areas of Omaha and Lincoln. The supervisory physician was responsible for the education and room and board for the student during the preceptorship rotation. Since 1971 there has been a mandatory eight-week rural preceptorship at UNMC to be completed in either the junior or the senior year. The eight weeks can be extended electively to a 12-week rotation. The preceptorship program is administered through the UNMC Family Practice Undergraduate Program. All students are placed with practicing family physicians in Ne-

Continued on page 719

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