



Pediatric Clips

NURSING

A patient with anorexia nervosa

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Pediatric Nursing Clips by Pediatric Advanced Practice Nurses at Dayton Children's provides quick reviews of common pediatric conditions.

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CASE STUDY

Natalie is a 16-year-old straight-A student who participates in choir, cheerleading and honor society. She has dated the same young man for eight months.

Natalie's parents are divorced and share a difficult relationship. She feels torn between her mom and dad. Her older brother, 28, lives alone and has sporadic contact with Natalie.

Recently, Natalie and her mom went shopping for clothes. Her mom thought she appeared thinner over the past few months but hadn't been too

concerned; Natalie was always watching her weight. Natalie's mom is involved in a court battle with her dad regarding visitation and has been busy. Natalie doesn't visit her dad and misses him.

Her mom was shocked to see how much weight Natalie had lost. Natalie wouldn't say how much weight she lost but thought if she lost more, she would be a better cheerleader.

The next week, Natalie's boyfriend broke up with her. She wasn't socializing as before and her mom noticed her eating less and spending more

time in her room.

Her mom received a phone call that Natalie had fainted in the mall parking lot where she went to shop. She made an appointment with Natalie's physician for the next day.

During the visit, Natalie indicated she felt fine and looked good. According to Natalie's records, her height is 5'7" and weighs 45 kg. Her last visit was six months prior for a respiratory infection. At that time, she weighed 62 kg. Her body mass index (BMI) is now 15.5.

CASE DISCUSSION

Anorexia nervosa (AN) is a complex illness, which results in morbidity and mortality. It is estimated that eating disorders affect five million Americans every year. The incidence of AN in adolescent females in the United States is thought to be between 0.5 to 1%.⁴ The highest incidence occurs in 15-to-19-year-olds.³

There is no agreement on the pathophysiology of AN. There appears to be a number of causative factors including genetic, neurochemical, psychodevelopmental and sociocultural factors.² Dieting appears to be a common initiation point. Also characteristic is a preoccupation with being thin, influenced by societal factors such as an emphasis on the ideal body shape. Many activities, which focus on leanness such as ballet, cheerleading and gymnastics, are associated with a higher incidence of eating disorders.

Significant physiologic changes occur with the disorder and it is questioned if a physiologic disturbance can be a causative factor. The neurotransmitter, serotonin, affects appetite control and mood and may play a part.³

Experts indicate the development of an eating disorder may be associated with family characteristics. They include

adolescent perception of parental expectations for achievement and appearance, difficulty managing conflict, poor communication styles, estrangement between family members and marital tension.³

DIAGNOSING/TREATMENT

The most obvious symptom of AN is significant weight loss following self-imposed starvation. Adolescents with AN do not regard their new appearance as ugly. They may play with their food so friends and family do not see they are not eating. Some develop a focus on food by becoming knowledgeable about calories and nutrition. Increased strenuous exercise is common as well as self-induced vomiting or laxative use.⁵ They tend to withdraw from peer relationships and start to isolate themselves from others. They strive for perfection and are classic overachievers with schoolwork being very important.

Physiological symptoms include those related to altered metabolic activity following the severe weight loss. It is common to see patients with secondary amenorrhea, bradycardia, lowered body temperature, decreased blood pressure and cold intolerance. These patients have dry skin and hair, and brittle nails.⁴

Diagnosis is made by the presence of symptoms and conformity with criteria established by the American Psychiatric Association which includes refusal to maintain body weight, fear of gaining weight, disturbance in the way in which one's body weight is experienced and in postmenarcheal females, the presence of amenorrhea.¹

It is necessary to complete a physical examination to rule out organic causes of weight loss. A history should be obtained and includes assessment of weight changes, dietary patterns and exercise. The patient's weight, height and BMI should be obtained and compared with the standard percentiles for the adolescent's age. Important parts of the physical exam focus on orthostatic vital signs, temperature measurement and review of the skin and hair. Lab assessments include complete blood count, C-reactive protein, electrolytes and pregnancy testing for those with prolonged amenorrhea.

THERAPEUTIC MANAGEMENT

The management of AN involves three major goals:

1. reinstatement of nutrition or reversal of the severe state of malnutrition,

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Continued from the front.

2. resolution of disturbed patterns of family interaction and
3. individual psychotherapy to correct distortions in psychological functioning.⁴

Therapy should include dietitians, physicians, nurses, social workers and counselors. Most adolescents are treated on an outpatient basis; hospital admission is only required when vital signs decrease significantly, ideal body weight is less than 75% despite outpatient treatment and the patient experiences syncope or arrhythmias.

The initial goal is to treat life-threatening malnutrition with adherence to dietary requirements. The goal should not be to gain weight, as that is counterproductive. The goal is to maintain a healthy lifestyle with balance in dietary intake and exercise. The dietician is essential in developing a firm but flexible meal plan with sufficient calories to initiate weight restoration. The patient should be involved in setting up the meal plan.

Psychotherapy is central to the treatment of eating disorders. Parents should also be actively involved in this therapy. Behavioral

contracts are often used to initiate weight restoration. The goal is to increase feelings of control and also responsibility toward achieving recovery. Rewards are used along the way as a component of the contract when achievements are made. Patients often deny their illness, making the disorder difficult to treat. It is essential to treat eating disorder patients with respect and support the restoration of their self-esteem.

SUMMARY

Complications of AN can occur as a result of starvation and include osteoporosis, cardiac impairments, cognitive changes and electrolyte abnormalities.

Outcome studies find that 50% of AN patients have good outcomes when evaluated by the criteria of return of menses and weight gain. Approximately 25% have some weight regain and relapse and the remaining 25% have poor outcomes.⁶

AN is associated with significant mortality. One study found a 6.6% death rate overall due to complications of AN and suicide.³

Although the changes are often reversible, complications of starvation affect every organ system and the effects are often present for years.

REFERENCES

1. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders, ed4 (DSM-IV-TR)*, Washington, DC, 2000; The Association.
2. Becker et al. *Eating disorders*. N Eng J Med. 1999; 340 (14): 1092-1098.
3. Foreman SF. *Eating disorders: epidemiology, pathogenesis and clinical features*. Available at <http://www.uptodate.com>. Accessed December 2004.
4. Hockenberry and Wilson. *Wong's Nursing Care of Infants and Children*, St. Louis, Mosby; 2007.
5. Muscari ME. *Screening for anorexia and bulimia*, Am J Nurs. 1998; (11): 22-24.
6. Rome et al. *Children and adolescents with eating disorders: the state of the art*, Pediatrics. 2003; 111(1): e98-e108.

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