Tourette Syndrome

Tourette Syndrome (TS) is an inherited neurological disorder. It shows up in childhood usually before age 18 years of age. Symptoms reveal themselves as repeated involuntary movements and uncontrollable vocal sounds. Both the sounds and the movements are called tics. Less commonly the tics may include inappropriate words and phrases. Usually this syndrome is mild and often may not even be diagnosed or suspected. Uncommonly the problem is severe.

CAUSES

The exact cause of Tourette's is unknown. Genetic and environmental factors may be involved. The majority of cases of Tourette's are inherited. No gene has been identified which causes Tourette's. In some cases, tics may not be inherited. These cases are identified as sporadic Tourette syndrome.

SYMPTOMS

The first symptoms of TS are usually facial tics and eye blinking. Tics may begin in one part of the body and spread. Some patients will have one tic, while other patients will have several tics. Tics may also increase in number over time. Children will often be distracted by the tics and may appear to have trouble concentrating. Other motor tics may appear, such as:

- Head jerking.
- Neck stretching.
- Jumping
- Foot stamping.
- Body twisting and bending.

Vocal tics are also common in a person with TS and include:

- Shout.
- Bark.
- Yelp.
- Grunt.
- Sniff.
- Cough.
- Clear his or her throat.

A person with TS may touch other people excessively or repeat actions over and over. Some TS patients also express compulsive behaviors like checking, counting or repeating certain words. A few patients with TS have self-harming behaviors such as lip and cheek biting and head banging. People with TS can sometimes suppress their tics for a short time, but eventually tension mounts to the point where the tic must escape. Tics worsen in stressful situations and improve when the person relaxes or is absorbed in an activity.

Additionally, there is an association with attention deficit hyperactivity disorder (50% patients with TS also have ADHD), learning disabilities (30%), and obsessive compulsive disorder (25%- 40%).

DIAGNOSIS

TS is diagnosed by observing the symptoms and evaluating family history. In order for a child to be diagnosed with TS, they must have both a motor and verbal tic for at least 12 months. TS is a diagnosis made from a study of the signs and symptoms of a disease (*clinical diagnosis*). There are no medical or screening tests that can help in making the diagnosis, but your physician may order other tests (EEG, MRI, CAT scan, or blood tests) to make sure your child's symptoms are not due to another condition.

TREATMENT

- Medication management is available for TS, and its associated conditions. Not all tics need medication and

no medication will completely make tics go away. Treatment decisions need to consider both the potential side effects of medication and the quality of life of the patient.

- Medication is also available to help when symptoms are troubling or interfere with life. TS medications are only able to help reduce specific symptoms. Relaxation techniques and biofeedback may be useful in handling and lessening stress. Behavioral therapies include:
  - Skill building- focuses on deficiencies in academic and social skills.
  - Behavioral excesses- focuses on the elimination of unwanted behaviors.
  - Educational accommodations can include un-timed tests or the use of scribes for those with handwriting problems.

There is no cure for Tourette's and no medication that works for all people. Knowledge, education and understanding are uppermost in management plans for tic disorders. Supportive counseling and therapy may help:

- Avoid depression.
- Limit social isolation.
- Improve family support.

Educating the patient, family, and patient's community (friends, school, and church) are key treatment strategies. This may be all that is required in mild cases. There is no cure for TS. The condition in many individuals improves as they mature. Although TS is generally lifelong and chronic, it generally does not get worse as children get older. In a few cases, complete remission occurs after adolescence.

RESEARCH

Understanding the genetics of TS will help patients who are concerned about the syndrome in their families. This research will help to clarify the development of the disorder. There are studies of certain neurotransmitters to explore the role they play in the disease process and develop more effective therapies. Others are researching how environmental factors may influence the disease.

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