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My Child Has:

Acute Transverse Myelitis

Programs that treat this condition

This Health Topic is not associated with any programs or procedures.

What is Acute Transverse Myelitis?

Acute Transverse Myelitis (ATM) involves a brief but intense attack of inflammation (swelling) in the spinal cord that damages myelin. Myelin is the protective covering of your nerve fibers. Myelin is also called white matter due to its color. Because ATM affects myelin, it is a type of a "demyelinating" disorder. Your spinal cord transmits information between your brain and your body. ATM usually affects the middle (thoracic) portion of the spinal cord. In some cases, it can affect the upper (cervical) portion of the spinal cord.

What are the symptoms of ATM?

The symptoms of ATM come on quickly and can include:

- pain,
- weakness,
- numbness or tingling,
- loss of bowel and bladder function.

Weakness and numbness occur on both sides of the body, which is why it is called "transverse."

If the thoracic portion (middle) of your spinal cord is affected, your legs will be affected, but your arms will not.

If the cervical portion (upper) of your spinal cord is affected, both your arms and legs can be affected. In severe cases, your breathing can be affected.

What causes ATM?

- ATM is an "autoimmune" condition that often follows an infection such as a cold. Your immune system protects your body from things like bacteria and viruses. Autoimmune diseases confuse your body's immune system. Instead of fighting against bacteria or viruses, it attacks your healthy cells and tissue. In ATM, your immune system reacts against your spinal cord. Autoimmunity is not contagious, but may be genetic (inherited from parents).
- ATM may also follow a vaccination, although this is rare.
- In some cases of ATM, a specific trigger/cause cannot be identified.

How is ATM diagnosed?

There is not one specific test that is used to diagnose ATM. There are several exams and tests that your doctors must look at including:

- Your child's medical history,
- A neurological examination,
- Spine MRI scan to check for swelling in the spinal cord and rule out causes other than ATM,
- Brain MRI scan to make sure there is no swelling in the brain,
- A lumbar puncture (spinal tap) to make sure that there is not an infection in the spinal fluid, such as meningitis or encephalitis,
- Blood tests to look for infectious triggers and for other conditions which can be confused with ATM.

In order to perform the testing and undergo treatment (see below), children with ATM are usually hospitalized for 1 to 2 weeks.

What is the treatment of ATM?

Medications are used to reduce the inflammation (swelling) in the spinal cord. The main medication that is used is called methylprednisolone (Solu-medrol®), which is a corticosteroid given by IV once a day for three to five days. This medication is completely different from the illegal steroids that some athletes use.

Most children with ATM improve with high doses of methylprednisolone. If this medication does not work,

there are other treatments that can be tried (plasmapheresis or intravenous immunoglobulin therapy).

What are the side effects of the treatment?

Most children tolerate the steroids (the medication) very well. Some children can develop temporary moodiness or other behavioral changes. Steroids can also cause increases in blood pressure and blood sugar, which your doctors and nurses will check for and treat if necessary. Steroids can also irritate your stomach lining. A medication such as ranitidine (Zantac®) will be given to prevent this stomach irritation.

Will my child leave the hospital on medications?

Some children will be placed on a steroid called prednisone for a short period of time. Your child may also be prescribed a medication to prevent stomach irritation. If your child is experiencing pain, a pain management plan will be developed.

What is the prognosis of ATM?

Steroid treatment can reduce some symptoms and stop new symptoms from developing. Although the long term prognosis for children with ATM varies, most children make a complete or nearly complete recovery, including those children with initially severe symptoms. For most children, recovery begins within days and continues for up to one year. Motor function usually improves faster than bowel and bladder function. Some patients can have residual symptoms such as weakness, numbness, or urinary problems.

Will ATM affect my child's school performance?

Because ATM affects the spinal cord (which is not involved in thinking), most children return to their baseline school performance. However, some children may have new difficulty with their school work due to missed school days during the illness. If you notice changes in your child's school performance, it is important to let your medical providers know so that they can work with the school to develop an educational plan.

Will my child get ATM every time s/he has an infection?

No. In more than 90% of patients, ATM occurs only once. In some patients, it can re-occur. It is not known why patients develop ATM with certain infections at certain times. If you notice symptoms during an infection that you think are unusual, such as weakness, numbness, or imbalance, it is important to notify your doctor immediately.

How is ATM similar to multiple sclerosis (MS)?

Both ATM and MS involve autoimmune responses to myelin in the spinal cord. They are both "demyelinating" disorders. Symptoms common to both disorders include weakness, numbness and bowel and bladder problems. Corticosteroids are used to treat attacks of ATM and MS.

How is ATM different from MS?

Although children can develop MS, it is much more common in adults. There are clues in the symptoms and MRI to try to distinguish ATM from MS. Most importantly, ATM typically occurs only once, while patients with MS have further, repeated attacks of inflammation in the brain and spinal cord. Most patients with MS are treated with ongoing medication to prevent such attacks. Patients with ATM do not require such medication.

Can a child with ATM ever develop MS in the future?

Although it is uncommon, children who initially have ATM can later develop MS. Children who have the "complete" form of ATM with more severe symptoms actually appear to be at lower risk of developing MS than patients with "partial" ATM. Therefore, it is important to have ongoing follow up with your doctor. If you notice new symptoms, such as visual loss, weakness, numbness or loss of balance, it is important to let your doctor know immediately.

What will the follow-up be after my child is discharged from the hospital?

- After discharge from the hospital, some children go to a rehabilitation hospital to work on things like strength and balance.
- Some children are discharged home, with outpatient physical therapy.
- It is important to follow up with your neurologist in the outpatient clinic. The neurologist will check your child's neurological examination. S/he will also perform a follow-up MRI.

Will the abnormalities on the MRI go away?

abnormalities developing.

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