



# PANDAS, AUTO IMMUNE ENCEPHALITIS POST STREPTOCOCCAL INFECTION

DIAGNOSIS AND TREATMENT



# CLINICAL PEARLS

18 YEARS OF EXPERIENCE

# DIAGNOSIS

- Extensive history is required to make a diagnosis
- Requires review of all pediatric records, growth curves, any testing that has been done and a very careful exam
- Family history is also very important as there is often a family history of Rheumatic fever and other auto immune disorders. (caveat to this is that I do not interrogate patients with headaches or epilepsy so I am not certain that there is a difference in the children with PANDAS or the general population)

# FINDINGS

- Children who present with PANDAS often have previous episodes during which there may have been only one sign present
- Frequent urination which led to a visit to rule out UTI and normal urine
- Choppy growth curves with periods of no weight gain or a drop in weight
- History of reports from the school that the child needed OT or appeared distracted, hyperactive or required additional supports which then waned
- A period of extreme separation anxiety

# OBJECTIVE DATA MOST HELPFUL

- Abnormal sleep studies with little REM sleep or prolonged time into REM
- Positive strep cultures or titres which are negative about 30% of the time.
- Pediatric records which document pharyngitis and otitis and treatment is rendered without a culture.
- Handwriting samples which show clear evidence of dysgraphia that waxes and wanes.
- Abnormal neurologic exam with low tone, dilated pupils and choreiform movements
- A history of strep in the family particularly the adults who should not get strep.
- Abnormal laboratory studies showing anti brain antibodies. GAD 65, Moleculera panel
- IgG levels which are on the low end of normal particularly IgG subclass 2, high IgE levels
- Growth curves
- Gastric motility studies and urodynamics have been abnormal WHEN they have been done.

# TREATMENT

- Early treatment is critical and patients who are treated early respond more quickly.
- Broad spectrum antibiotics are required in many cases.
- Tonsillar tissue when sent for core culture reveals Staph, MRSA, Serratia and other bacteria that are not seen in OSA or Chronic strep without PANDAS.
- Tonsils are most often not enlarged

# KEEP IT SIMPLE

- Start with eliminating triggering infection if possible with antibiotics.
- Have everyone in the family cultured and treat appropriately.
- Move to immune modulators quickly if antibiotics are not effective or the severity of illness dictates it.

# SAFETY FIRST

- If a child is suicidal, or a threat to others, it is an emergency and should be treated as such.
- If you cannot keep your child and your family safe, call 911

# CHILDREN WITH SEVERE SYMPTOMS AT PRESENTATION NEED TO BE TREATED AGGRESSIVELY

- After starting antibiotics move quickly to high dose IV steroids and then to Plasmapheresis if new onset or IVIG.
- If it is chronic and then becomes acutely severe, high dose IV steroids and Rituxan should be considered

# SEVERE SYMPTOMS

- Anorexia with weight loss
- Aggression or rage episodes which are a danger to the child or anyone else.

# FLARES

- Often precipitated by viral illnesses.
- Can be controlled when mild with anti inflammatories/or steroids.
- It is very important before starting a steroid for a flare that your child be examined.
- We do not want to be putting children on steroids if they have a serious infection such as pneumonia or meningitis if they have not been properly treated first.

# SCHOOL

- Immediately make the school aware of the diagnosis and the need for infection control.
- No water fountains
- If a bathroom sink is used, follow with hand sanitizers
- Wipe down any shared desks, laptops surfaces etc.
- Refer the school to [PANDASNETWORK.org](https://www.pandasnetwork.org) and utilize the tools for the education of the entire school environment.

# YOUR PEDIATRICIAN

- Please do not get angry at your pediatrician.
- Please return to the same pediatrician after treatment.
- We are all learning and the lack of awareness and treatment options is a problem that will only be solved when a pediatrician is able to watch a child go through the process of treatment and recover.
- On a positive note, over the past 10 years I have seen far fewer children coming in with no treatment than in the past.
- They are often referred on antibiotics or by a social worker or psychologist or Psychiatrist.

# YOUR FAMILY

- The entire family is affected by this disorder.
- Marriages are tested.
- Siblings are often terrified or hurt.
- Supportive therapy for a family in this crisis is extremely helpful.

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THANK YOU