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"This is a description of an individual expert practitioner's approach, presented to give the learner some practical ideas. These treatment recommendations have not been endorsed by the American Headache Society® (AHS). For some of the statements and recommendations there is little formal evidence."

How Do I Do It Reference for Acute Migraine Treatment in Children

In the absence of sufficient scientific evidence, this is how I treat acute episodic migraine in children. Be aware that discussion of managing migraines in children may contain off label uses. This will be a discussion of treatment of single migraine attacks and will not address the issue of prophylaxis. It will also assume that the patient has a definite diagnosis of migraine and will not address the differential diagnosis.

Acute treatment using NSAIDs

Many children may have an adequate response to these safe, readily available medications. Additionally, many insurance companies in my area will not cover triptans in younger children. In order to assure the best possibility of success, the following points should be considered.

1. Adequate dosing:
 - a. ibuprofen 10 mg/kg
 - b. naproxen 10 mg/kg
 - c. acetaminophen 15 mg/kg
2. Formulation: both come as liquid as well as tablets
 - a. ibuprofen suspension 100 mg/5ml
 - b. naprosyn 125 mg/5 ml
 - c. acetaminophen
3. Presence of nausea/vomiting- prior or coadministration of an anti-emetic may allow improved absorption of any orally administered medication or may allow the child to keep it down at all.
 - a. promethazine 0.5-1mg/kg orally or rectally
 - b. prochlorperazine in teens 5-10 mg (0.15mg/kg)
 - c. ondansetron orally disintegrating tabs 4-8 mg (lower dose for kids under 12) (0.15mg/kg)
4. Early treatment
 - a. counsel family and patient to that treating early improves efficacy.

- b. provide school note with prescription so med may be administered at migraine onset in school
- c. advocate with teachers and school nurse to allow patient to be treated before they look miserable.

Acute treatment using triptans

Children with severe migraines or migraines that are full blown upon awakening may not respond to over-the-counter preparations. None of the preparations have an indication in the pediatrics population, though Sumatriptan nasal 20 mg, Zolmitriptan nasal 5 mg and almotriptan 12.5 mg have demonstrated efficacy in double blind randomized prospective trials in adolescents, but failed to meet all endpoints required for getting an indication. I use these medications in children as young as 4 or 5. I use the adult contraindications to determine who is a candidate. There are often insurance issues with these preparations in my area- be prepared to do some paperwork for pre-authorization, and be prepared to have denial in the Medicaid population under 12 years of age. I do not have a preference for any particular agent. I use the following points to determine what I may recommend as a first line agent. Additionally, coadministration of anti-emetics as above, and/or naproxen may be necessary for adequate efficacy. There is no data for mg/kg dosing however, small children sometimes require and tolerate well, full adult doses of triptans. For children under 10, I usually start with the smaller dose, but give parents and school permission to use the full adult dose.

1. For patients who can't swallow pills the following preparations can be used:
 - a. Zolmitriptan ZMT 2.5 or 5 mg, nasal 5 mg
 - b. Rizatriptan MLT 5 or 10 mg
 - c. Sumatriptan nasal 5 or 20 mg, sc 4 or 6 mg
2. For patients with excessive nausea and vomiting who can't keep down or absorb medication, the following agents may be more efficacious. Remember that melt preparations of triptans are still absorbed in the GI tract.
 - a. Zolmitriptan 5 mg nasal
 - b. Sumatriptan nasal 5 mg or 20 mg, SC 4 or 6 mg
 - c. Administer Ondansetron ODT 4 or 8 mg prior to attempting an oral triptan.

Acute treatment using intranasal or injectable dihydroergotamine

Patients who are triptan non-responders may respond to ergots. Additionally, patients who have full-blown migraines upon awakening or who have vomiting and are unable to keep down oral medications may benefit from the nasal or injectable form of this medication. Patients who have a tendency towards status migraine may also do well with either form of this medication as they can be taught repetitive dosing at home in order to perhaps avoid hospital admission.

Patients who have status migraine and use this rather than triptans may get IV DHE inpatient without waiting 24 hour after a last triptan dose.

1. Intranasal DHE (migranal):
 - a. Be prepared for an insurance company battle due to high cost and indication issues.
 - b. I generally instruct teens to use one spray in each nostril, repeat in 15 minutes +/- the antiemetic of your choice as needed. For pre-teens and children, I have them use only one spray in each nostril with the option to repeat if tolerated. Nausea tends to be less of an issue with intranasal administration and sometimes anti-emetics are sedating so I don't recommend they be used for every patient. If undue side effects are encountered, such as worsening headache, excessive nausea/vomiting, uncomfortable chest/throat tightness or muscle cramping are encountered, the patients are told not to repeat the dose after 15 minutes. I allow patients to repeat this medication Q8 up to 3 days if their migraine persists.
 - c. I generally prescribe SC or IM DHE for patients who have failed the above protocol and who have required hospital admission. I base their dose on what they needed/tolerated inpatient. Nausea/vomiting is more common using this so be sure to prescribe an antiemetic as above. After 1-2 days of Q 8 dosing, I would recommend hospital admission rather than persisting at home unmonitored. These patients' parents will need to have hands on instruction in drawing up and administering the medication, unless they are health care professionals. It may be helpful to address the issue prior to a hospital discharge so teaching can be accomplished efficiently and effectively.

Rebound

All families prescribed any of the acute medications discussed previously should be instructed to watch out for the development of rebound headaches due to medication overuse and to notify the office if frequent acute medication use is occurring.

Rescue

In the best of all possible worlds, first line medications would hit a home run every time. Unfortunately, when a patient is first prescribed acute medications, it takes some time to determine which medication is tolerated and effective so a rescue plan should be put in place. For many children, merely inducing sleep is effective. Diphenhydramine 0.5-1 mg/kg is my first line. Some children have a paradoxical response so it is important to ask if this has occurred before and to warn about it. Sometimes families know of cold meds that have made the child drowsy before, and depending on the formulation, these may also be offered.

Some anti-emetics may cause drowsiness in addition to treating the other symptoms of migraine and may be used as a rescue. Rarely, I do prescribe narcotic or butalbital containing medications for children for whom nothing else works or in whom other effective medications are contraindicated (examples: patients with basilar-type migraine or sickle cell disease). This should be done with extreme caution.

Summary

This provides a review of what I have found to be helpful in clinical practice in treating acute migraines in children and adolescents. It is important to remember that this is my opinion and not based on FDA indications or extensive scientific study. Therapy for a specific patient needs to be tailored to their specific needs and medical issues so the previously mentioned therapies are not appropriate for all pediatric patients with migraine.

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References:

As follows are references related to the acute treatment of migraine in the pediatric population. Some are scientific studies and some are articles that reflect both science and others' opinions.

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