MEDICAL TREATMENT PROTOCOL FOR NEWLY IDENTIFIED CASES OF ARACHNOIDITIS

METHOD USED BY
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➢ This protocol is a starting point for on-going treatment in new cases or as a clinical trial in inconclusive or equivocal cases.

➢ This protocol is for both lumbar-sacral and cervical arachnoiditis.

➢ This protocol is intended for use in primary care medical settings by generalist medical practitioners.

➢ This protocol highly emphasizes that proper treatment of confirmed cases of arachnoiditis requires the simultaneous administration of these 3 components.

Neuroregeneration referred to here is “re-growth” of damaged central nervous system tissue which includes glial cells, neurons, nerve roots, pia mater, arachnoid lining, connective tissues, and receptors.

Mission: Bringing arachnoiditis treatment to every community and the primary care setting.

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Ingrid Hollis: Development of structure and presentation of this protocol.

This protocol is provided as a public service by the “Arachnoiditis Research Project” of the Tennant Foundation.

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**PROTOCOL ABSTRACT SUMMARY**

**PATIENT NOT ON OPIOID DRUGS**

1. Low dose compounded naltrexone 0.05 to 1.0 mg on 5 to 7 days a week.

2. Continue any current medication directed toward pain relief that the patient and family believe to be effective.

3. Ketorolac compounded troche 10 to 30 mg on 2 to 3 days a week. Options are Diclofenac 50 mg BID, or patch, or Indomethacin 25 mg TID.

4. Methylprednisolone 2 to 4 mg PO in late afternoon on 2 to 3 days a week.

5. Pregnenolone, start 50 mg PO a day and progressively raise the dosage over 2-4 weeks to 200 to 400 mg on 3 to 5 days a week, or Medroxyprogesterone 10 mg BID on 3 days a week.

**Options and add-ons:** Start OTC/dietary supplements. Follow the dosage on the labels.

**PATIENT ALREADY ON OPIOID DRUGS**

1. Continue the patient’s current opioid dosage and other medication regimen directed at pain relief and sleep and which the patient and family believe to be effective. The regimen should and will likely already contain one of these neuropathic agents: topiramate, gabapentin, tizanidine, pregabalin. Begin a progressive, 4-week return to the pain relief regimen, including opioid dosage or formulation that the patient and family believes to be superior, to their current regimen. Do not reduce opioids in an arachnoiditis patient unless the patient voluntarily and willingly does it.

2. Start #s. 2 through 5 listed above in the section for patients who are not on opioids.

**GUIDANCE**

1. The above starting protocols and regimens should be continued for about 4 to 6 weeks before making changes, options, or add-ons.

2. Details and rationales for changes, options, and add-ons for the 3 treatment components are given on the following pages.
COMPONENT NO. 1

SUPPRESSION OF NEUROINFLAMMATION

1. Start ketorolac compounded troche - Dosage range is 10 to 30 mg on 2 or 3 days a week. Options: diclofenac 50-75 mg BID on 3-5 days a week or indomethacin 25 mg TID on 3 to 5 days a week. Use diclofenac patch as option.

2. Methylprednisolone (Medrol®) 2 - 4 mg on 2 to 3 afternoons a week.

Options/Add-ons:

1. Dietary OTC supplements: curcumin/turmeric, serrapeptase, and adrenal bovine extract. Dosage is on the labels.

2. Add one or more of these glial cell suppressors on 3 – 5 days a week:
   a. Metformin, 500 – 1000 mg, per day
   b. Acetazolamide, 125 – 250 mg, per day
   c. Minocycline, 100 mg, per day
   d. Pentoxifylline, 400 mg, per day

3. Switch to dexamethasone .5 mg or prednisone 5 mg if methylprednisolone not effective.

CLINICAL NOTES

1. The combination of ketorolac and methylprednisolone (Medrol®) has been the most effective regimen in our hands (reduction of pain, fatigue, and blood markers). They are recommended even in small dosages such as a once weekly or as an in-office injection on a monthly basis. Oral ketorolac is not recommended. Ketorolac injections may cause hematomas particularly in patients with genetic connective tissue disorders. Do not take ketorolac on more than 5 consecutive days due to renal complications.

2. Starting medications can be increased to 5 to 7 days a week, if necessary.

3. In our opinion anti-neuroinflammation must be continued indefinitely once a case of arachnoiditis is confirmed since neuroinflammation may go into apparent remission and silently and progressively cause damage to nerve tissue. When this occurs neurologic impairments of the bladder, sex organs, gastrointestinal tract, or extremities may “suddenly” occur.
COMPONENT NO. 2

PROMOTION OF NEUROREGENERATION
(Regrowth of Damaged Nerve Tissue)

Start – Choice of One – Can Add or Substitute Others at a Later Date
1. Pregnenolone (OTC) – begin at 50 mg a day and over 4 weeks increase the dosage to 200 to 400 mg on 3 to 5 days a week or Medroxyprogesterone 10 mg BID on 3-5 days a week.

2. Options/Add-ons: Over-the-counter anabolic supplements:
   a. Colostrum
   b. Collagen preparations (Gummies, capsules, liquid) Follow instructions on label.
   c. Gonadal Extract (Orchex®)

3. Options After 4 – 6 Weeks of Pregnenolone or Medroxyprogesterone
   Add or substitute the following:
   a. Human Chorionic Gonadotropin (HCG), 250 to 500 units on 3 to 5 days a week (sublingual liquid, troche, or injection).
   b. Nandrolone troche, 25 mg 1 to 2 times a day on 2 to 5 days a week.

CLINICAL NOTES
1. Pregnenolone is OTC. To avoid side-effects, start at a low dose of about 50 mg per day and increase progressively to 200 mg or more a day.
2. Pregnenolone at a dose of 200 to 400 mg a day will metabolize to: allopregnanolone, progesterone, cortisol and DHEA.
3. HCG in our hands has proven INVALUABLE as a therapy. Most chronic patients (over 3 years duration) who have markedly improved with significant opioid reduction have used HCG for at least a year. HCG not only raises progesterone, testosterone, estradiol, and thyroid, it is the only hormone that has a direct, nervous tissue, anabolic effect (HCG stimulates ectoderm growth in embryogenesis).
4. Nandrolone is proving, in our hands, to be almost essential in these patients who have adhesive arachnoiditis and genetic connective tissue disorder of the Ehlers-Danlos/Marfan types.
5. Medroxyprogesterone appears considerably more effective than plain progesterone.
6. If, after 4 to 6 weeks a hormone appears ineffective or causes side-effects, it should be stopped.
7. The neurosteroids. Pregnenolone, progesterone, and allopregnanolone, not only have neuroregenerative powers, they are also POTENT SUPPRESSORS OF NEUROINFLAMMATION. (See references.)
COMPONENT NO. 3

CONTROL OF PAIN

TWO CLINICAL SITUATIONS:
1. PATIENT NOT ON OPIOIDS
2. PATIENT ON OPIOIDS

SITUATION ONE – PATIENT NOT ON OPIOIDS

Start
1. Begin low dose naltrexone (LDN) 0.5 to 1.0 mg in compounded capsules. Raise prn to a maximal dosage of 4.0 mg per day over the following 4 to 12 weeks. Take on 5 to 7 days a week.

2. Continue any anti-seizure, antidepressant, muscle relaxant, sleep sedative, anti-anxiety agent, adrenergic, or other medication that the patient and family believe to be helpful in the relief of pain. Adequate pain control will usually require one of these standard neuropathic agents: gabapentin, topiramate, tizanidine, or pregabalin. Start with a low standard dosage if the patient is not already on one of these agents.

3. Simultaneously administer Components 1 (suppression of neuroinflammation) and 2 (promotion of neuroregeneration).

4. Options/Add-ons:
   a. OTC analgesic agents for minor pain flares: palmitoylethanolamide (PEA), CBD oil, kratom products.
   b. Lidocaine or diclofenac patch or gel over painful site.
   c. For additional pain relief consider one of these non-opioid analgesics:
      1. Ketamine compound (troche, nasal, sublingual tablets, 25 mg a dosage. Use prn.
      2. Oxytocin compound sublingual tablets or troche, 40 units a dosage. Use prn.

FAILURE OF NON-OPIOID REGIMEN LISTED HERE

If pain is not controlled by the non-opioid regimen listed here, stop LDN and start low to moderate opioid dosages. A chart of maximal daily opioids dosages to remain at or under 90 mg per morphine equivalence (MME) is attached for quick reference.

If opioid dosages above 90 MME are required, consult or refer to a pain management specialist, but continue Components One and Two.
COMPONENT NO. 3 - CONTNUED

SITUATION TWO – PATIENT IS ON OPIOIDS

Start:
1. Continue opioids and other drugs in the patient’s current medication regimen including any anti-seizure, antidepressant, muscle relaxant, sleep sedative, anti-anxiety, adrenergic, or other agent that the patient and family feels helpful. Progressively return the patient to any regimen, dosage, or formulation that the pain patient and family claim that was effective and allowed ambulation and the ability to carry out activities of daily living. The patient’s pain control will most likely already contain one of these neuropathic agents, topiramate, gabapentin, tizanidine, pregabalin. If not, use standard low dosage to start. Do not attempt to reduce opioids in an arachnoiditis patient unless the patient voluntarily desires to do so.

2. Simultaneously administer Components 1 (suppression of neuroinflammation) and 2 (promotion of neuroregeneration).

3. Options/Add-ons:
   
   a. Ketamine compound (troche, nasal, sublingual tablets or troche, 25 mg a dosage. Use prn.
   
   b. Oxytocin compound sublingual tablets or troche, 40 units a dosage. Use prn.
   
   c. Adrenergic agent:
      1. Clonidine .1 mg, 2 to 4 times a day;
      2. Amphetamine Salt (Adderall®) 10 to 20 mg, 1-2 times a day on 3 to 5 days a week;
      3. Phentermine 37.5 mg, 1 to 2 times a day on 3 to 5 days a week.

<table>
<thead>
<tr>
<th>FAILURE TO PROVIDE FUNCTIONAL PAIN RELIEF</th>
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<tbody>
<tr>
<td>If satisfactory pain relief is not achieved after being treated with all 3 components (1 thru 3 above) within a 2-4 months period, refer the patient to a pain management specialist for high dose opioid therapy, implanted electrical stimulator, or intrathecal opioid delivery. All 3 components should be continued even if the patient requires end-stage, palliative pain measures, such as an implanted electrical stimulator.</td>
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## MAXIMAL DAILY OPIOID DOSAGES FOR 90 MG MORPHINE EQUIVALENCE

<table>
<thead>
<tr>
<th>Approx. Oral Doses a Day</th>
<th>OPIOID (Oral or Patch)</th>
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<tbody>
<tr>
<td>8-9</td>
<td>Morphine – 10 mg</td>
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<tr>
<td>3-4</td>
<td>Methadone – 10 mg</td>
</tr>
<tr>
<td>8-9</td>
<td>Hydrocodone/APAP – 10/325 mg (Vicodin®, Norco®)</td>
</tr>
<tr>
<td>3</td>
<td>Morphine – 30 mg</td>
</tr>
<tr>
<td>6</td>
<td>Oxycodone/APAP – 10/325 mg (Percocet®)</td>
</tr>
<tr>
<td>5</td>
<td>Hydromorphone – 4 mg (Dilaudid®)</td>
</tr>
<tr>
<td>2-3</td>
<td>Hydromorphone – 8 mg (Dilaudid®)</td>
</tr>
<tr>
<td>6</td>
<td>Oxycodone Plain – 10 mg</td>
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<tr>
<td>2-3</td>
<td>Oxycodone Plain – 20 mg</td>
</tr>
<tr>
<td>2</td>
<td>Oxycodone Plain – 30 mg</td>
</tr>
<tr>
<td>16-20</td>
<td>Codeine 30 mg</td>
</tr>
<tr>
<td>8-10</td>
<td>Codeine 60 mg</td>
</tr>
<tr>
<td>16-18</td>
<td>Tramadol 50 mg</td>
</tr>
<tr>
<td>8-9</td>
<td>Tramadol 100 mg</td>
</tr>
<tr>
<td>1</td>
<td>Fentanyl Patch – 25 mcg per hour</td>
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<tr>
<td>1</td>
<td>Fentanyl Patch – 50 mcg per hour is 120 mg of morphine equivalence</td>
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<tr>
<th>OPIOID INJECTIONS</th>
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<tbody>
<tr>
<td>2-4</td>
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<td>3-4</td>
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<tr>
<td>8-9</td>
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- This table is based on recommendations of the Federal Centers for Medicare and Medicaid and are the Center for Disease Control (CDC) Opioid Guidelines for primary care practitioners.
- If a patient wishes, they can take 2 opioids, each at half the maximal number a day which is listed above.
ANCILLARY CLINICAL MEASURES

Arachnoiditis, particularly when it is adhesive with adherence or “gluing” of cauda equina nerve roots to the arachnoid spinal canal lining, is an inflammatory, progressive disease that causes destruction of nerve tissue including glial cells, neurons, connective tissues, and receptor sites. This condition primarily requires intensive medical treatment, but several ancillary clinical measures are highly recommended antineuroinflammatory, neuroregenerative, and control of pain are established.

These include walking, stretching, massage, water therapy, deep breathing, and use of copper and magnets rubbed over painful sites. All these measures help promote spinal fluid flow, movement of electrical energy, and hopefully prevent tissue destruction in and outside the spinal canal. Electric current and electromagnetic therapies including lasers, infrared, and radio waves may be very comforting and may bring about some permanent healing of damaged nerve tissue. Injections of corticosteroids near the spine (not epidural) and topical skin application of corticosteroids, neurosteroids, and homeopathic agents, may be very therapeutic and bring about relief of pain, because a major problem of adhesive arachnoiditis is chronic spinal fluid seepage through the inflamed spinal canal covering (e.g. pia mater, arachnoid, dura) into paraspinal tissue.

In-Office Procedures: The author of this protocol is a great supporter of in-office injections and other procedures which can be administered when the patient attends appointments. Injections such as ketorolac, methylprednisolone, B₁₂, estradiol, and testosterone, will often help make up for a less than maximal, at-home regimen. Localized treatments over the lumbar or cervical spine are very helpful to enhance comfort, function, and hopefully, bring about some healing of nerve tissue.

DR. BEAK says, “Doctors, if you can treat adhesive arachnoiditis you can treat about any pain problem with the 3-Components”.

HAPPY SPIDER says, Stop me from spinning!

NURSE ROSEY says, Not 1 or 2, use ALL 3 COMPONENTS!
References


