Tension-type headache
Non-pharmacological and pharmacological treatment

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Treatment

1200 BC
Drawing by P. Cunningham
Danish Headache Center

- Inaugurated 2001
- Multidisciplinary headache centre
- Focus on difficult-to-treat and rare types of headache and facial pain
- National treatment and research centre
- 1,076 new patients per year
- 2,655 ongoing patients
- 11,424 contacts (8,258 physical visits + 3,166 telephone contacts) per year

www.danishheadachecenter.dk
Danish Headache Center

- Staff
  - 8 neurologists specialized in headache (all part time), 3 nurses, 3 psychologists, 3 physical therapists, 1 psychiatrist (part time) and 8 secretaries
- Collaboration with
  - Neurosurgeons
  - Gynaecologist
  - Dentist
  - Anaesthesiologist

Multidisciplinary management

- Medications
- Physical treatment
- Psychology
- Patient education
Organization in DHC

Secretary
> 100%

Headache specialist
100 %

Physical therapist
46%

Headache nurses
34-90%

Pain psychologist
29%

Danish Headache Centre
Relative frequencies of diagnostic categories in 2011

- Migraine: 34%
- Medication-overuse headache: 8%
- Tension-type headache: 9%
- Cluster headache: 2%
- Trigeminal neuralgia: 6%
- Ideopathic intracranial hypertension: 9%
- Post traumatic headache: 12%
- Other headache conditions: 20%
EFNS treatment guideline

Treatment

- Patient education
- Non-pharmacological treatment
- Acute pharmacological treatment
- Prophylactic pharmacological treatment
Headache calendar

To monitor:
- Effect of treatment
- Intake of analgesics

Download: www.dhos.dk

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Non-pharmacological management

- Information and reassurance
- Avoidance of trigger factors (stress, sleep disorders, irregular meals, caffeine, reduced physical exercise)
- Identification and treatment of co-morbid disorders, e.g., migraine, depression and anxiety

*Bendtsen et al., J Headache Pain 2012*
Treatment of tension-type headache with medication-overuse

- Multidisciplinary treatment
- Most patients (80-90%) detoxified during Headache School
- Complicated patients (10-20%) detoxified during 2 weeks in hospital

Medication-overuse headache
Headache School

- Run by specialized nurses
- 6 sessions of 2 hours
- 6-7 patients per course
- Synchronous and abrupt start of the detoxification period
- Exchange of experiences among the patients
- Lectures by the Multi-Disciplinary Team
Headache School
The Programme

<table>
<thead>
<tr>
<th>Week -4</th>
<th>Week 0</th>
<th>Week +2</th>
<th>Week +3</th>
<th>Week +4</th>
<th>Week +8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction Information</td>
<td>Withdrawal plan</td>
<td>Follow-up Nurse</td>
<td>Follow-up Nurse</td>
<td>Follow-up Nurse</td>
<td>Follow-up Nurse</td>
</tr>
<tr>
<td>• Presentation of each member of the group</td>
<td>• Individual guidance, 10-15 minutes per patient</td>
<td>• Nurse Lecture on treatment of migraine and TTH</td>
<td>• Lectures on prevention of new Medication Overuse Headache</td>
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Non-pharmacological therapies

- Physical therapies, probably effective
  - Relaxation and exercise programs
  - Improvement of posture
- Physical therapies, probably not effective
  - Hot and cold packs
  - Ultrasound
  - Spinal manipulation
  - Greater occipital nerve blocks
- Muscle trigger point therapy?
- Oromandibular treatment (occlusal splints)?
- Acupuncture, possibly effective
Non-pharmacological therapies

• Psychological therapies (stress and pain management)
  – Biofeedback
  – Relaxation training
  – Cognitive-behavioral therapy - increased efficacy when combined with TCA (Holroyd)

Physical therapies at DHC

• Individual physical examination
• Instruction in improvement of posture
• Training in individual exercise programs based on findings from physical examination
• Selected patients are offered group-based relaxation instruction and training plus biofeedback
• Relaxation and exercise programs performed at home
• Typically 4-8 follow-up visits
Psychological therapies at DHC

- Cognitive-behavioral therapy and relaxation training
- Mainly group therapy
- Main aims
  - To reduce headache
  - To increase quality of life

Psychological therapies at DHC
Groups of 8 patients, nine sessions, 2 hours each

1. Stress and tension, how to recognize and control
2. EMG biofeedback
3. Pain behavior, pain accept
4. Cognitive restructuring
5. Feelings, how to handle
6. Thoughts, avoid negative circles
7. Communication. Headache, relationships and social life
8. Problem solving methods
9. Summary, plan ahead
Effect on headache

Effect on working capacity and well-being

Vinther et al.
Non-pharmacological management
EFNS guideline conclusions

- Non-drug management should always be considered
- Information, reassurance and identification of trigger factors may be rewarding
- EMG biofeedback has a documented effect
- Cognitive-behavioral therapy and relaxation training are most likely effective
- Physical therapy and acupuncture may be valuable

Bendtsen et al., EJN 2010

Acute drug treatment

- Drugs with documented effect, recommended doses
  - Ibuprofen 200-800 mg
  - Ketoprofen 25 mg
  - Aspirin 500-1000 mg
  - Naproxen 375-550 mg
  - Diclofenac 12.5-100 mg
  - Paracetamol 500-1000 mg
  - Caffeine combinations 65-200 mg

Bendtsen et al., EJN 2010
Acute drug treatment
EFNS guideline conclusions

• Simple analgesics and NSAIDs are drugs of first choice
• Combination analgesics containing caffeine are drugs of second choice
• Triptans, muscle relaxants and opioids should not be used
• Avoid frequent use of analgesics to prevent medication-overuse headache

Bendtsen et al., EJN 2010

Prophylactic drug treatment

• Should be considered in frequent episodic and chronic TTH
Drugs with documented effect, recommended doses

- Drug of first choice
  - Amitriptyline 30-75 mg
- Drugs of second choice
  - Mirtazapine 30 mg
  - Venlafaxine 150 mg
- Drugs of third choice
  - Clomipramine 75-150 mg
  - Maprotrilone 75 mg
  - Mianserin 30-60 mg

Bendtsen et al., EJN 2010

How to use amitriptyline

- Inform about mechanisms and side effects (effect is not related to depression)
- Start low, go slow
- Start with 10-25 mg before bedtime
- Increase with 10-25 mg per week to 10-100 mg daily
- Usual maintenance dose 30-75 mg daily
- Whole dose should be taken before bedtime
- Assess efficacy with calendar
- Discontinue after 1 month if ineffective
- Consider mirtazapine or venlafaxine
- If effective consider to taper off every 6-12 months
Prophylactic treatment of chronic tension-type headache

Bendtsen et al., JNNP 1996

Mirtazapine in chronic tension-type headache

Bendtsen and Jensen, Neurology 2004
Prophylactic drug treatment
EFNS guideline conclusions

• Amitriptyline is drug of first choice
• Mirtazapine and venlafaxine are drugs of second choice

Bendtsen et al., EJN 2010

Treatment of Tension-Type Headache
Take home messages

• Correct diagnosis (TTH, migraine, MOH, depression)
• Non-pharmacological
  – Avoidance of trigger factors
  – EMG biofeedback, cognitive-behavioral therapy, relaxation training
  – Physical therapy
• Pharmacological treatment
  – Acute - simple analgesics and NSAIDs
  – Prophylactic - antidepressants (TCA, SN)
• Does it help?
Treatment outcome, Danish Headache Center

Zeeberg et al. Cephalalgia 2005

Jensen et al., Cephalalgia 2010

Can be downloaded at www.dhos.dk as pdf with hyperlinks.

Has been sent to all neurologists in DK.

Most important tables have been sent to all GP’s in DK.

Danish Headache Society Reference Programme


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Bendtsen et al., J Headache Pain 2012