Migraine in the ED: A randomized comparative effectiveness study to improve short and long term outcomes

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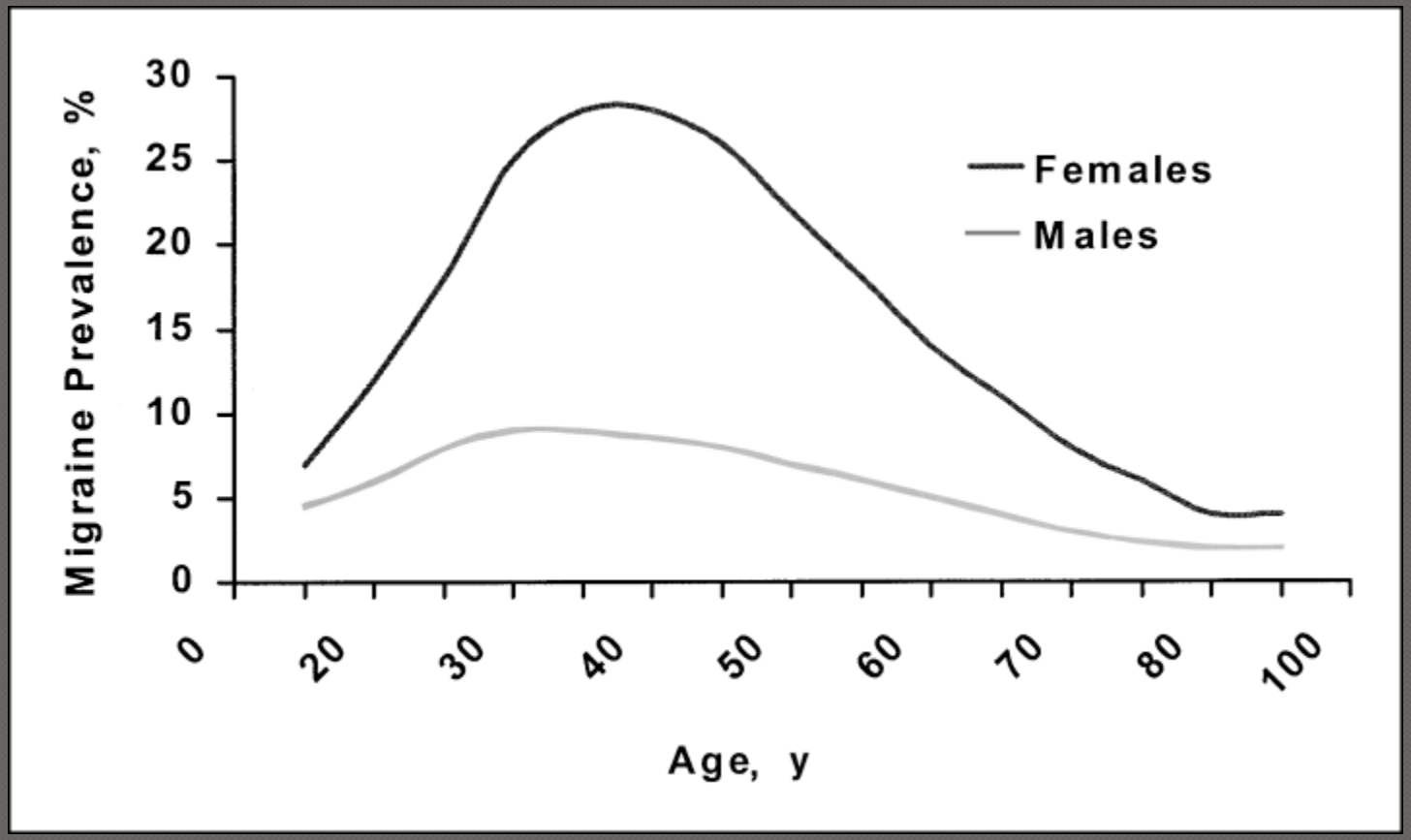
Slide 1: Prevalence of migraine



Lipton et.al., Neurology

Slide 2: Parenteral medications used to treat migraine in the ED

- Ketorolac
- Sumatriptan
- Dihydroergotamine
- Lidocaine
- Dexamethasone
- Benztropine
- Anti-emetics
  - Prochlorperazine
  - Metoclopramide
  - Droperidol
  - Chlorpromazine
  - Promethazine
  - Odansetron
- Anti-histamine
  - Hydroxyzine
  - Diphenhydramine
- Opioids
  - Nalbuphine
  - Butorphanol
  - Buprenorphan
  - Meperidine
  - Morphine
  - Fentanyl

Vinson, Annals of Emergency Medicine

Slide 3: Frequency of use of various medications

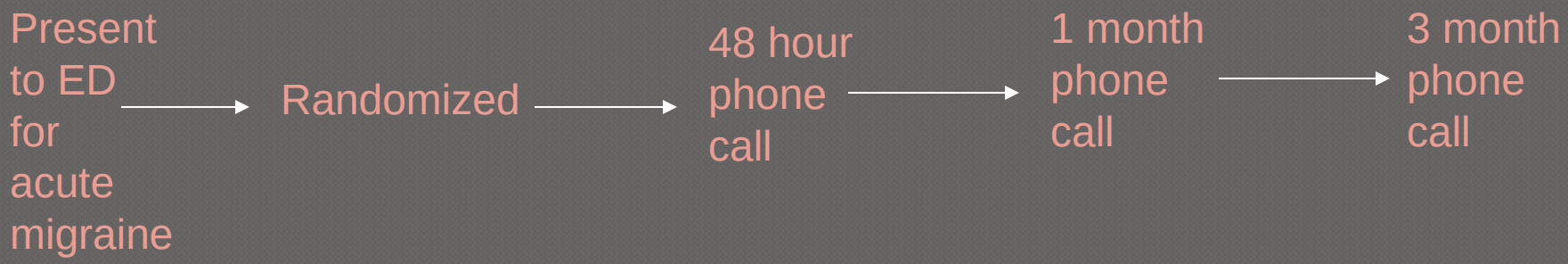
Medication	Frequency of use in 2010 (95%CI)	Frequency of use in 1998 (95%CI)
Opioid		
Hydromorphone	25% (19, 33%)	<1% (0, 3%)
Meperidine	7% (4, 12%)	37% (29, 45%)
Morphine	7% (4, 11%)	1% (0, 5%)
Anti-emetic		
Metoclopramide	17% (12, 23%)	3% (1, 6%)
Prochlorperzine	15% (10, 22%)	16% (12, 22%)
Droperidol	< 1% (0, 1%)	3% (2, 4%)
Any triptan	7% (4, 11%)	10% (6, 15%)
Ketorolac	34% (28, 40%)	16% (11, 22%)

Slide 4:AHRQ comparative effectiveness review

The most effective treatments were combination therapy (i.e., DHE added to either neuroleptics or metoclopramide) or neuroleptic monotherapy (low strength of evidence), with a pain reduction of approximately 40 mm on the visual analog scale (VAS) . Metoclopramide monotherapy, opioids, and NSAIDs were the next most effective treatments, with a pain reduction of approximately 24 mm (low strength of evidence). Other agents (e.g., DHE, triptans, orphan agents) were less effective, with a pain reduction of approximately 12-16 mm.

Sumamo Schellenberg, 2012

Slide 5: Study overview



Arm 1: Hydromorphone 1mg IV
Arm 2: Dihydroergotamine 1mg IV+ Prochlorperazine 10mg IV
Arm3: Prochlorperazine 10mg IV

Re-dosed at one hour in insufficient relief