Subject Index

Acetylsalicylic acid
clinical trials for migraine
anti-emetic drug combination therapy 33, 36, 46
lysolecithin-acetylsalicylic acid
injectable formulation 36
metoclopramide combination therapy 33, 36
tablet 34, 35
guidelines for migraine use 30, 31
history of use 30
mechanism of action 30–32
pharmacokinetics 30
tension-type headache relief 317
Almotriptan
carotid blood flow effects 192
clinical trials for migraine
dose-finding studies 198, 199
long-term studies 200, 201
multiple migraine attack studies 200, 201
overview 197, 198
phase III trials 198, 199
sumatriptan comparison 194, 199, 200
coronary vascular effects 193
guidelines for use 204
isolated blood vessel restriction 192
pharmacokinetics 193
receptor binding profile 190
recurrence rates 201, 202
selection factors, see Triptans, selection
factors for oral therapy
side effects 202–204
structure 191
subcutaneous administration 197, 198
systemic blood flow effects 192
trigeminal inhibitory effects 193
Amantadine, migraine prophylaxis 303
Amitriptyline
migraine prophylaxis 309
tension-type headache prophylaxis 318, 319
Anticonvulsants, see Gabapentin, Valproate
Antidepressants
migraine prophylaxis 303, 304, 309, 310
tension-type headache prophylaxis 318, 319
Aspirin, see Acetylsalicylic acid
Baclofen, trigeminal neuralgia treatment 339–341
Beta-blockers
adverse effects 263, 308
clinical trials for migraine prophylaxis
comparative studies with other
prophylactic drugs 260, 262–265
efficacy studies 258–262
combination therapy 311, 312
contraindications 263
guidelines for use in migraine
prophylaxis 263, 266, 308
intrinsic activity 257
lipophilicity 257
mechanism of migraine prophylaxis 258
membrane stabilizing activity 257, 258
receptor types 256, 257
subreceptor selectivity 257
Buclizine
analgesic combination treatment for acute migraine 240, 241
migraine treatment 49, 50
Butalbital, guidelines for use 239
Butorphanal
guidelines for use 234, 239
nasal therapy for headache 228
parenteral therapy for headache 229, 231
Calcitonin gene-related peptide
migraine role 61, 112, 142
rizatriptan inhibition 153, 154
sumatriptan inhibition 87, 88
Capsaicin, cluster headache treatment 324
Carbamazepine, trigeminal neuralgia treatment 339–341
Cerebral blood flow, migraine effects 59, 60
Cervicogenic headache, see also Post-traumatic headache
diagnosis 357–359
treatment 360
Chlorpromazine, migraine treatment 48, 49
Chronic paroxysmal hemicrania, treatment 343
Clinical trials, acute migraine, see also specific drugs
overview of process 24
patient selection
age at onset 25
concomitant drug use 25
diagnosis 24, 25
duration since onset 25
frequency of attacks 25
interval headaches 25
randomized trial evaluation
aim of study 27, 28
design of study 28
efficacy parameters 28, 29
presentation of results and statistics 29
results evaluation
attacks resolved within 2 h 26
global evaluation of medication 27
nausea and vomiting 27
relief of headache 26
rescue medication 27
severity of headache 26, 27
statistics 27
trial design
blinding 25
crossover/parallel group comparison 25, 26
dosage 26
placebo 25
rescue medication 26
Clinical trials, migraine prophylaxis, see also specific drugs
design
baseline recording 246
blinding 245
crossover/parallel group comparison 246
dosage 246, 247
duration of treatment 246
placebo control 244, 245
washout 246
patient selection 245
results evaluation
duration in hours 248
frequency of attacks 247
headache diary 247
headache index 248
number of days with migraine 247
patient preferences 248
responders 248
severity of headache 247, 248
side effects 248
statistics 248, 249
Clomipramine, tension-type headache prophylaxis 318, 319
Clonidine, migraine prophylaxis 302, 303, 311
Cluster headache, see also Post-traumatic headache
acute headache therapy
capsaicin 324
dihydroergotamine 324
ergotamine 324
lidocaine 324
oxygen therapy 323, 324
Cluster headache, headache, acute headache therapy (continued)
  sumatriptan 322, 323
  zolmitriptan 323
  presentation 322, 326
  prophylaxis
dexamethasone 325, 326
  episodic vs chronic headache
  prophylaxis 326, 327
  ergotamine 325
  lithium 325
  methysergide 326
  pizotifen 326
  prednisone 325, 326
  verapamil 325
  triggers 322
Cluster-tic syndrome, treatment 344
Codeine, oral therapy for headache 225–227
Dexamethasone
  acute migraine treatment 240
  cluster headache prophylaxis 325, 326
Dextropropoxyphene, acute migraine treatment 241
Dihydroergotamine
  cardiovascular safety profile 60
  clinical trials for migraine 71–73
  cluster headache treatment 324
  contraindications 75
  drug interactions 74
  guidelines for use 77, 78
  history of use 53, 54
  mechanism of anti-migraine action
    neurogenic inflammation inhibition 61
    trigeminal pathway transmission
      inhibition 62, 67
  vascular constriction 53, 59, 60, 62, 67
  pharmacokinetics 55–57, 67, 68
  receptor pharmacology 52, 53, 57, 58, 62,
    66, 67, 143
  synthesis 52, 54
  tolerability and safety 72–74, 77
Domperidone
  clinical trials for migraine 47
  dosage and administration 47, 50
  pharmacology 47
Droperidol, migraine treatment 49
Drug-induced headache, see also
  Post-traumatic headache
caffeine effects 349–351
clinical features 349
diagnosis 351
epidemiology 347, 348
management
  patient history 352
  prevention 353, 354
  treatment 353
  withdrawal of drugs 352, 353
pathophysiology 348, 349
prognosis 352
Eletriptan
  clinical trials for migraine
    design 184, 185
    dose-finding studies 184, 185
    efficacy 186, 188
    ergotamine comparison 70, 188, 189
    sumatriptan comparison 188
  guidelines for use 189
  intracranial blood vessel specificity
    179, 180, 182
  metabolism 181
  objectives in design 173, 174
  pharmacokinetics, oral 180–182
  receptor pharmacology
    binding kinetics 175–177, 182
    potency and selectivity 174, 175
  recurrence rates 185
  selection factors, see Triptans, selection
    factors for oral therapy
  side effects 185, 186, 188
  structure 174
  trigeminovascular effects in animal
    models 177, 178
Episodic paroxysmal hemicrania,
treatment 343
Ergotamine
  cardiovascular safety profile 60
  clinical trials for migraine
  caffeine combination therapy 69
inhale drug 70
monotherapy 68, 69
suppository 71
triptan comparisons 69, 70
cluster headache
pharmacokinetics 193, 206, 213
receptor binding profile 190, 206
contraindications 75
drug interactions 74
guidelines for use 76, 78
history of use 53, 54, 66
mechanism of anti-migraine action
neurogenic inflammation inhibition 61
trigeminal pathway transmission
vascular constriction 53, 59, 60, 62, 67
misuse and drug-induced headache 75, 76
pharmacokinetics 55–57, 67, 68
receptor pharmacology 52, 53, 57, 58, 62, 66, 67, 143
tolerance and safety 73, 74

Gabapentin
clinical trials for migraine prophylaxis 296
guidelines for use 297
mechanism of migraine prophylaxis 296

Hemicrania continua, treatment 343, 344
5-HT, see Serotonin receptor
Hydrocortisone, acute migraine treatment 240

Idiopathic stabbing headache, treatment 342, 343

International Headache Society,
classification system
guidelines for use 20, 21
migraine 3, 16–18
operational diagnostic criteria
18–20, 24, 25
post-traumatic headache 329
scientific evaluation 21, 22
tension-type headache 315

Isometheptene
clinical trials 238
combination therapy 237, 238
contraindications 239
indications 238
pharmacology 237, 238
side effects 239

Lidocaine
acute migraine treatment 239, 240
cluster headache treatment 324

Lisuride
clinical trials 284
receptor pharmacology 284

Lithium, cluster headache prophylaxis 325
Lysine-acetylsalicylic acid, see Acetylsalicylic acid

Magnesium
brain levels during migraine 300
migraine prophylaxis 299–301
Mefenamic acid
menstrually-related migraine prophylaxis 310
migraine treatment 40
Menstrually-related migraine, prophylaxis
estrogen, transdermal 310
mefenamic acid 310
oral contraceptives 310
Meperidine, parenteral therapy for
headache 229–231
Metclopramide
clinical trials
acetylsalicylic acid combination therapy 33, 36, 46
paracetamol combination therapy 46
contraindications 47
dosage and administration 46, 50
drug interactions 47
pharmacology 45
rationale for use with analgesics 44–46
side effects 46
Methadone, parenteral therapy for headache 229
Methysergide
clinical trials 282
cluster headache prophylaxis 326
contraindications 309
mechanism of antimigraine action 281, 282
pharmacokinetics 280
receptor pharmacology 280, 281
side effects 279, 280, 309
Migraine
age distribution 3, 4, 11
classification 3, 16–18
clinical trials, see Clinical trials, acute migraine; Clinical trials, migraine prophylaxis
comorbidity 6, 7
drug therapy, see specific drugs
economic impact 8–11

genesics 141
geographic and racial distribution 6
incidence 3, 4
menstruation, see Menstrually-related migraine
natural history 7, 8
operational diagnostic criteria 18–20
post-traumatic, see Post-traumatic headache
presentation 2, 3, 141
prevalence 2, 4, 6
prophylaxis, see Prophylaxis, migraine
sex ratio 3, 4, 6, 11
socioeconomic status effects 6, 11
transformed migraine 8
Monoamine oxidase inhibitors, migraine prophylaxis 304
Naproxen, migraine treatment 40
Naratriptan
clinical trials for migraine
dose-finding studies 135
phase I 134, 135
phase II 134, 135
phase III 135, 137
contraindications 139
drug interactions 130, 131
guidelines for use 139
migraine-associated symptom relief 137
neurogenic inflammation inhibition 127, 128
pain, effects on animal models 129
pharmacokinetics 124, 129, 130, 132
receptor pharmacology 124, 125, 131
recurrence rates 137
selection factors, see Triptans, selection factors for oral therapy
side effects 137
trigeminovascular transmission inhibition 128
vasoconstrictor effects 126, 127
Nausea, neurological control 44
Non-steroidal anti-inflammatory drugs, see also specific drugs
clinical trials for migraine
acetic acids 40
acetylsalicylic acid 33–36
mefenamic acid 40
naproxen 40
propionic acids 40
table 37–39
tolfenamic 40
guidelines for migraine treatment 30, 31
mechanism of action 30–32
prospects for migraine treatment 40, 41
tension-type headache relief 314, 315, 317
types 32

Opioids
analgesia mechanism 224
classification 224
clinical studies in migraine and
tension-type headache
adverse events 228
design of studies 224, 225
oral opioids 225–227
parenteral opioids 228–231
summary 231–234
transnasal opioids 228
definition 222
headache treatment guidelines
doses 233, 234
indications 232, 233
receptors
κ subtypes 223, 224
structure 224
types 223
Oxygen therapy, cluster headache treatment
323, 324

Paroxysmal hemicrania
diagnosis
autonomic symptoms 338
investigations 339
pain characteristics 337, 338
precipitating factors 338, 339
receptors
κ subtypes 223, 224
structure 224
types 223

Phenytion, trigeminal neuralgia treatments
339–341

Phenytoin, trigeminal neuralgia treatment
339–341
Pimozide, trigeminal neuralgia treatment
339–341
Pizotifen
clinical trials 283, 284, 309
cluster headache prophylaxis 326
pharmacokinetics 283
receptor pharmacology 282, 283
side effects 282, 283
Post-traumatic headache
course 331, 332
differential diagnosis 331
epidemiology 329, 330
non-drug therapy 335, 336
nonbeneficial therapies 336
pharmacotherapy
cluster-type headache 334
drug-induced headache 334
migraine-type headache 334
tension-type headache
acute 332
chronic 333
types and features
cervicogenic headache 330
cluster-type 331
drug-induced 331
migraine-like 330
overview 329
tension-type 330
Prednisone, cluster headache prophylaxis
325, 326
Prochlorperazine, migraine treatment
48, 49
Prophylaxis, migraine
clinical trial design, see Clinical trials,
migraine prophylaxis
contraindications 254, 255
drug therapy, see also specific drugs
duration 311
failure 312
first-line prophylactic drugs 308, 309
menstrually-related migraine 310

Subject Index

369
Prophylaxis, migraine, drug therapy
(continued)
multiple therapy 311, 312
second-line prophylactic drugs 309, 310
indications 251, 307
patient education 250, 251
selection of therapy 252, 253
side effects 254, 255
starting as stopping medication 253, 254

Riboflavin, migraine prophylaxis 301, 302
Rizatriptan
central pain processing and trigeminal
sensitization inhibition 154–156
clinical trials
design 162, 163
efficacy evaluation 163, 164
safety evaluation 163, 164
formulations 162, 170
guidelines for use 170, 171
long-term efficacy 169
metabolism 148, 149
peripheral trigeminal nerve inhibition 153, 154, 156
pharmacokinetics, oral 149, 162
plasma protein binding 148
safety 169, 170
selection factors, see Triptans, selection
factors for oral therapy
serotonin receptor pharmacology
animal 5-HT1B and 5-HT1D receptor
binding 147, 148
functional pharmacology in h5-HT1B
and h5-HT1D cell lines 146
5-HT1A binding 147
5-HT3A binding 147
metabolite binding 149, 156
overview 141, 144, 146
short-term efficacy
do.se-response 166, 170, 171
functional ability restoration 166
migraine-associated symptom relief 165, 166
multiple migraine attacks 165
single migraine attacks 164
sumatriptan comparison 166–169
tolerability 169

Rizatriptan
vasoconstrictor activity
coronary artery studies 150–152
intracranial extracerebral
vasoconstriction 150, 151
Selective serotonin reuptake inhibitors,
migraine prophylaxis 304, 311
Serotonin receptor (5-HT)
anti-migraine receptors in
trigemino-vascular system 144
drug interactions, see specific drugs
5-HT1F role in migraine 173
migraine prophylaxis with antagonists
279–284
receptor pharmacology 142, 143
subtypes 142, 143
Strictly unilateral neuralgia with conjunctival
injection and tearing (SUNCT), treatment 344
Sumatriptan
central effects 88
clinical trials
acetylsalicylic acid comparison 33
almotriptan comparison 194, 199, 200
dihydroergotamine comparison 100, 101
ergot comparison 69, 70
injection efficacy 93–96
nasal spray efficacy 98–103
pediatric migraine 103, 104
rizatriptan comparison 166–169
suppository 103
tablet efficacy 96–98
zolmitriptan comparison 120
cluster headache treatment 322, 323
drug interactions 90
guidelines for use 105, 107, 108
history of use 83, 93
long-term efficacy 95, 96, 101, 102
pain, animal model studies 88, 89
peripheral trigeminal nerve effects 87, 88
pharmacokinetics 89, 90, 110, 124, 162
receptor pharmacology 83, 84, 90, 91, 173
safety 105
selection factors, see Triptans, selection
factors for oral therapy
tolerability 104, 105
tolerance 94, 95
tolerance 94, 95
vasoconstrictor effects
advantages 83
cranial vasoconstriction 84–86, 179, 180
migraine relief 86, 87
peripheral vasoconstriction 86, 179, 180
trigemino-vascular effects in animal models 177, 178

Valproate
clinical trials for migraine prophylaxis
comparative trials 292
controlled trials 289–291
open trials 288, 289
contraindications 294
dose 291
guidelines for use 294, 295, 297, 308, 309
mechanism of migraine prophylaxis 288
side effects 292–294
tolerability 290

Verapamil
cluster headache prophylaxis 325
migraine prophylaxis 311

Vomiting, neurological control 44

Zolmitriptan
adverse events 120, 121
autonomic function effects 113
behavior effects 113
central distribution of drug 112, 113
clinical trials
dose-ranging studies 116, 117
phase III trials 117–119
sumitriptan comparison 120
cluster headache treatment 323
contraindications 121, 122
cortical excitability effects 113
guidelines for use 122
hemodynamic effects 111
pharmacokinetics 114
quality of life analysis 119
receptor pharmacology 110, 111
recurrence rates 120
selection factors, see Triptans, selection factors for oral therapy
tolerability 118
trigemino-vascular system effects 111, 112