**Appendix Table D74. Randomized controlled clinical trials that examined comparative effectiveness of propranolol of migraine prevention in adults**

| **Reference Total Sample Size as Randomized % Women** | **Aim** | **Definition of Migraine** | **Duration of Migraine, Years** | **Age of Subjects** | **Baseline Severity** |
| --- | --- | --- | --- | --- | --- |
| Ashtari, 2008171 Sample Not reported 81.7% women | To assess the efficacy and safety of low-dose topiramate in migraine prophylaxis vs. propranolol | International Headache Society | Not reported | Mean: 30.8 | Mean monthly headache frequency: 5.95 |
| Behan, 1980174 Sample 56 66.1% women | To compare propranolol with methysergide in a large group of patients with chronic, incapacitating migraine | Chronic, incapacitating migraine | 0.5 to 33 | Not reported | Not reported; inclusion criterion: at least two attacks of severe migraine per month |
| Rafieian-Kopaei, 200564  Sample 105 % women Not reported | To compare the prophylactic activity of propranolol and amitriptyline on frequency, duration and severity of migraine attacks | Migraine (International Headache Society) | >1 (from inclusion criteria) | Not reported | Mean attack frequency: 4.02 (per month) |
| Kangasniemi, 198377 Sample 29 86.2% women | 1) To compare the relative efficacy of propranolol and femoxetine in migraine prophylaxis, and 2) to assess the usefulness of steady state VEP (visual evoked potential) recording in the evaluation of drug effects on migraine. | Common and classic migraine | 17 | 37 | Mean frequency of migraine attacks: 7.18 |
| Domingues, 200975 Sample 76 % women Not reported | To evaluate the short term efficacy and safety of the combination of low doses of propranolol and nortriptyline compared to these drugs alone | International Headache Society | Not reported | Not reported | Not reported |
| Carroll, 1990175 Sample 55 69% women | To compare the efficacy and tolerability of two long-acting formulations of propranolol | Classical or common migraine (Ad hoc committee classification of headache) | Median: 14 | Mean: 39 | Mean frequency of migraine (month): 6.1 |
| Kaniecki, 199768 Sample 37 81% women | To compare the efficacy of divalproex sodium (Depakote) with that of propranolol hydrochloride (and placebo) for the prophylaxis of migraine without aura | Migraine without aura as defined by the International Headache Society | Not reported | Not reported | Mean attacks (month): 4.38 |
| Ziegler, 198776 Sample 54 73% women | To compare efficacy of propranolol and amitriptyline in the prophylaxis of migraine headache | Patients were admitted to the study when two senior neurologists agreed on the diagnosis of migraine based on the frequent occurrence of the following factors: 1) unilateral nature of the headache; 2) nausea and/or vomiting, 3) premonitory visual phenomena, and 4) headache with no consistent association with transient stress or anxiety | Not reported | Mean: 38 | More than half of the headache episodes were classified as either "severe" (defined as "able to carry on some activities with discomfort but not with normal efficiency") or "disabling" (defined as "cannot carry on any normal activity, must go to bed") |
| Kaushik, 2005176 Sample 192 69% women | To evaluate utility of biofeedback assisted diaphragmatic breathing and systematic relaxation in migraine and to compare their efficacy with propranolol in long term prophylaxis of migraine | International Headache Society | Not reported | Not applicable | Frequency of migraine episodes (per month): 4-5 (propranolol vs. biofeedback, 71.9% and 76%, respectively) |
| Kangasniemi, 198470 Sample 36 89% women | To compare the well-established migraine prophylactic effect of the non-selective beta-blocker propranolol with that of the beta1-selective beta-blocker metoprolol | World Federation of Neurology Research Group on Migraine and Headache, 1969 | 15.6 | Mean: 33.8 | Number of migraine attacks per 4 weeks: 5.3 |
| Tfelt-Hansen, 198460 Sample 96 74% women | To compare the beta-adrenergic blocker timolol to an established drug,   propranolol, and to placebo for prophylactic effect in common migraine | Between 2 and 6 common migraine attacks per month as defined by the   ad hoc committee and by Olsen | 20.9 | Mean: 39.5 | Number of migraine attacks per 4 weeks: 5.7 |
| Olerud, 198673 Sample 28 % women 79 | To compare the prophylactic efficacy of nadolol with that of propranolol in patients with classic or common migraine | Classic and/or common migraine headaches as set forth by the Ad Hoc Committee on the Classification of Headache | Range: 2-45 | Not reported (range: 17-61) | Median number of migraine attack per month during single blind placebo period: 5.6 (Nadolol), 3.6 (Propranolol) |
| Mathew, 1981105 Sample 715 94.5% women | To determine propranolol long-term effectiveness and tolerance, and to the patient's migraine status after termination of therapy | Not reported | Not reported | Mean: 38 | Not reported |
| Albers, 198974 Sample 40 89.5% women | To compare the effectiveness of nifedipine to that of propranolol in the initial prophylaxis of migraine headache | Ad Hoc Committee on the Classification of Headache | Not reported | Mean: 35.2 | 5.2 |
| Andersson, 1981177 Sample 49 69.4% women | To compare the prophylactic effect of femoxetine with the effect of propranolol (Frekven) in a double-blind crossover study | Migraine was defined as paroxysmal headache associated with discomfort, possibly with inability to work, and one or more of the following symptoms: nausea, vomiting, visual disturbances and paresthesia. | Not reported | Mean: 38 | Migraine attacks per 4 weeks: 5.7 |
| Kass, 198069 Sample 23 69.6% women | To compare the prophylactic effect on migraine of propranolol and clonidine | World Federation of Neurology, 1969 | Not reported | Mean: 39.7 | Not reported |
| Havanka-Kanniainen, 1988178 Sample Not reported 81% women | To compare the efficacy and side-effects of LA propranolol 80 mg once a day with that of LA propranolol 160 mg once daily in the prophylactic  treatment of classic and common migraine | Ad Hoc Committee on the Classification of Headache | 17.5 | Mean: 37.7 | Migraine attack: 5.1 |
| Olerud, 198673 Sample 42 % women Not reported | To evaluate the effectiveness of a Beta-blocker (propranolol) alone, a calcium antagonist (cinnarizine) alone, and both in combination | Not reported | Not reported | Not reported | Not reported |
| Solomon, 1986179  Sample Not reported % women Not reported | To compare the prophylactic antimigraine effect of the calcium entry blocker verapamil with beta-blocker propranolol | Not reported | Not reported | Not reported | Not reported |
| Ryan, 1984180 Sample 48 73% women | To compare the relative efficacy and safety of propranolol and nadolol in the prophylactic phase of the treatment of migraine | Common or classical migraine (no definition provided) | Not reported | Not reported | Headache frequency/4 weeks: 6.3 |
| Gerber, 199171 Sample 58 81% women | To ascertain, on the basis of single case statistics and time-series analysis, responder and non-responder rates for metoprolol, propranolol and nifedipine in migraine prophylaxis. In addition, an attempt was made to identify the dose relationship for the various drugs on headache parameters. | Common or classical migraine (no definition provided) | 21 | Mean: 42.4 | Headache frequency/4 weeks: 3.55 |
| Sudilovsky, 198772 Sample 140 76% women | To compare the effects of nadolol with those of propranolol in the prophylactic treatment of migraine | Classic or common migraine as defined by Ad Hoc Committee on Classification of Headache | 20.7 | Mean: 39.3 | Headache frequency/4 weeks (during last year): 5.29 |
| Stensrud, 198062 Sample 35  68.6% women | To compare the effectiveness of a selective   and a non-selective beta1-receptor antagonist i.e. atenolol (Tenormin) and propranolol (Inderal), in the prophylaxis of migraine | Ad Hoc Committee on Classification of   Headache (1962) | Not reported | Not reported | Not reported |
| Olsson, 1984181 Sample 56 73.2% women | To investigate the prophylactic effect of metoprolol under double-blind controlled conditions and to compare the effect with that of propranolol in dosages that could be regarded as starting dosage | Classical or common migraine (defined by the World Federation of Neurology Research Group on Migraine and Headache, 1969/18/) | 20.7 | Mean: 39.6 | Migraine attack (median) / 4 weeks ( during placebo run in): 5.4 |
| Ahuja, 198556 Sample 26 46.2% women | To compare the effectiveness of a selective and a non-selective beta1-receptor antagonist i.e. atenolol (Tenormin) and propranolol (Inderal), in the prophylaxis of migraine | Ad Hoc Committee on Classification of Headache (1962) | Not reported | Not reported | Not reported |
| Sargent, 198555 Sample 149 79% women | To evaluate the prophylactic effect and tolerance of naproxen sodium compared to propranolol hydrochloride and placebo in migraine | Common or classical migraine, or a combination migraine and muscle contraction headache (no definition provided) | 20 | Mean: 30 | Not reported |
| Standnes, 198261 Sample 25 80% women | To evaluate the prophylactic effect of timolol in migraine | Common migraine attacks (as defined by the Ad Hoc Committee) | Not reported | Mean: 41.4 | Mean number of attacks (4 weeks): 6.65 |
| Diener, 200443 Sample 575 79.8% women | To evaluate the efficacy and safety of two doses of topiramate and safety of two doses of topiramate vs. placebo for migraine prophylaxis, with propranolol (PROP) as an active control | International Headache Society | Not reported | Median: 41 | Mean monthly migraine frequency: 5.1 |