

Nifedipine for primary dysmenorrhoea

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Background

Dysmenorrhoea is a common condition with a substantial impact on the well-being and productivity of women. Primary dysmenorrhoea is defined as recurrent, crampy pelvic pain occurring with periods in the presence of a normal uterus, ovaries and fallopian tubes. It is thought to be caused by uterine contractions associated with a high level of production of local chemicals such as prostaglandins. The myometrium responds to these high levels of prostaglandins by contracting forcefully, causing low oxygen levels and consequently pain. Nifedipine is a calcium channel blocker in widespread clinical use for preterm labour due to its ability to inhibit uterine contractions in this setting. To date, the therapeutic potential of nifedipine for primary dysmenorrhoea has not been summarised in the literature nor is it used in clinical practice for this indication.

Objective

To assess the efficacy and safety of nifedipine for the treatment of primary dysmenorrhoea.

Methods

A Cochrane review and analysis was carried out according to the guidelines of the Cochrane Gynaecology and Fertility group. This has been submitted and is currently under review.

We searched for all published and unpublished randomised controlled trials comparing nifedipine with placebo for dysmenorrhoea, without language restriction and in consultation with the Cochrane Gynaecology and Fertility Group (CGF) Information Specialist.

Trials were selected for inclusion and data extracted. Trials were assessed for risk of bias.

Numbers of events in the treatment and placebo groups were used to calculate odds ratios and risk ratios.

A Summary of Findings table was prepared to evaluate the overall quality of the body of evidence for the main review outcomes for the comparison of nifedipine with placebo. The quality of the evidence was assessed using GRADE criteria. Primary outcomes pre-specified were relief of pain and health-related quality of life.

Secondary outcomes were adverse effects, satisfaction rate and requirement for additional medication.

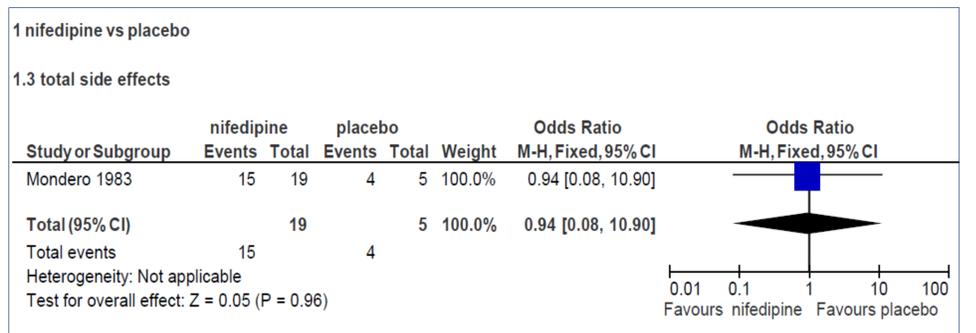
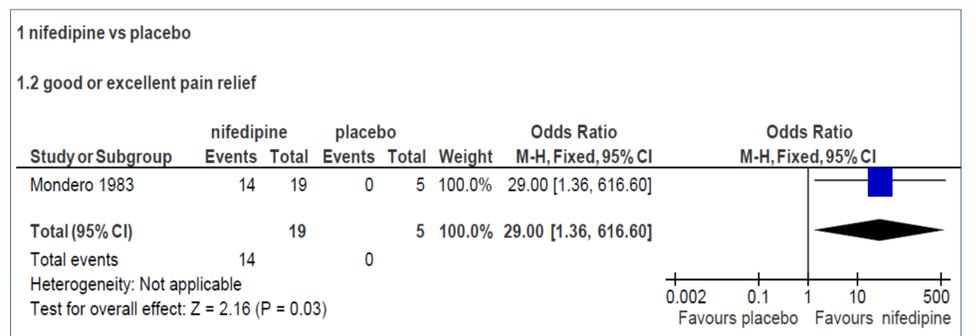
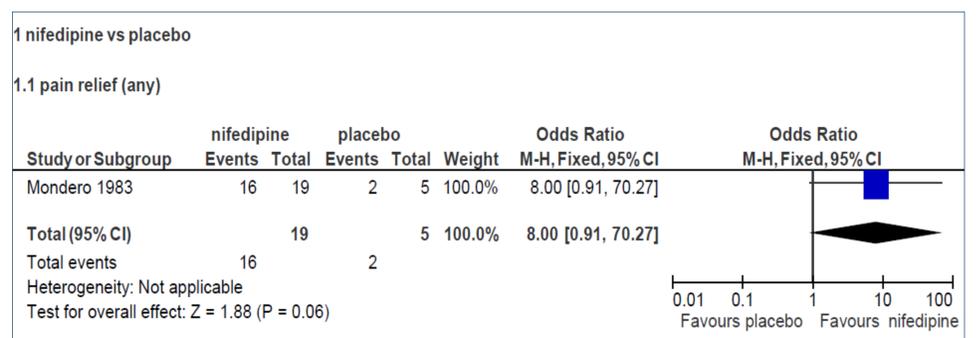
Results

There were only two studies suitable for inclusion, and only one of these contained data suitable for analysis; this trial was small (n=24). There was a trend towards nifedipine being effective for pain relief but this was not statistically significant. For pain relief rated as 'good or excellent', nifedipine was significantly better than placebo^{1,2} (figures 1.1 and 1.2).

In the study where the question was asked, women who received nifedipine were more likely to prefer to continue taking the medication for future cycles than women taking the placebo (12/19 vs 0/5)¹.

Both trials showed a high, and similar rate of adverse physical symptoms associated with menstruation in both nifedipine and placebo (figure 1.3).

Overall the evidence was thought to be of very low quality.



Conclusion

Nifedipine has a potential role as an additional therapeutic option for women suffering from primary dysmenorrhoea. It could be useful as a single agent or as an additional agent, particularly for women for whom other therapeutic options are contraindicated, or not desired; for example the combined oral contraceptive pill in women trying to conceive. Safety and tolerability are well established in reproductive age women from studies in preterm labour and the current analysis supports this³. However, the RCT evidence for efficacy is very limited, and larger trials should be conducted.



References

1. Mondero NA. Nifedipine in the treatment of dysmenorrhoea. Journal of America Osteopathic Association May 1983;82(9 Supplement):704/19 - 708/23.
2. Gavino AS, Gavino GF, Ahued JRA. Use of a calcium antagonist in the management of primary dysmenorrhoea [Uso de un calcio-antagonista en el manejo de dismenorrea primaria]. Ginecologica y Obstetricia de Mexico 1986;54:208-210.
3. Flenady V, Wojcieszek AM, Papatsonis DNM, Stock OM, Murray L, Jardine LA, et al. Calcium channel blockers for inhibiting preterm labour and birth. Cochrane Database of Systematic Reviews 2014, Issue 6. Art. No.: CD002255. DOI: 10.1002/14651858.CD002255.pub2.

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