Calcium antagonists are of no benefit in Duchenne muscular dystrophy

Clinical question
Are calcium antagonists effective in the treatment of people with Duchenne muscular dystrophy (DMD)?

Bottom line
There is no evidence for significant benefit from calcium antagonists in DMD. The 5 studies included in the review evaluated different types of calcium antagonists and measured a variety of outcomes, such as muscle strength, scales of muscle function, biochemical changes in muscle function and electrocardiographic findings. Only 1 study showed a beneficial effect, which was an increase in muscle strength, but this study was also associated with a high incidence of cardiac side effects. The drugs studied were verapamil, diltiazem, nifedipine and flunarizine.

Caveat
There were limitations in the description of blinding and randomisation, and definition of outcome measures. As the trials used different calcium antagonists and measured different outcomes, it was not possible to undertake a meta-analysis. The number of patients in most studies was small, ranging from 8 to 105 participants.

Context
DMD is an X-linked recessive, progressive wasting condition of muscles which starts in early childhood, leading to severe disability and a shortened life span. It is due to severe deficiency of the protein dystrophin which performs both structural and signalling roles within skeletal and cardiac myocytes. Calcium accumulates in dystrophic muscle cells and plays a role in cell damage. It has been hypothesised that use of calcium antagonists might reduce the calcium load and its toxic effect on muscles.

Cochrane Systematic Review

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