Robinson JN, Sandom J, Chapman PT. Efficacy of Pamidronate in Complex Regional Pain Syndrome Type I. Pain Med 2004;5(3)276-280.

Reviewed, no change to conclusions, February 2017

Design: Randomized clinical trial

Population/sample size/setting:

- 27 patients (9 men, 18 women, mean age 45) treated for CRPS-I at a pain management center in New Zealand
- Patients were referred to a regional multidisciplinary pain center and met ISAP criteria for CRPS-I
- Exclusion criteria not stated

Main outcome measures:

- Randomized to IV pamidronate 60 mg as single infusion (n=14) or IV saline (n=13)
- All patients completed the 3 month study
- Analgesic medication at stable doses was continued (acetaminophen with or without codeine or propoxyphene), but other interventions were withheld (active physical therapy with cognitive-behavioral approaches)
- Main outcome measure was change in pain score and global assessment of disease; SF-36 was also analyzed
- Control group did not change pain scores between baseline and 3 month follow-up
- Pamidronate group median pain scores decreased by approximately 30% (box plot only is presented in Figure 1B; numerical scores not reported)
- Patient global assessment of disease severity improved in the pamidronate group but not in the control group
- SF-36 scores in the pamidronate group were higher than in the control group at 3 months
- 5 patients in the pamidronate group and 2 patients in the reported minor influenza-type symptoms after the infusion; these resolved within 48 hours

Authors' conclusions:

- A single 60 mg pamidronate infusion was beneficial to a small cohort of patients with CRPS-I; these findings should be interpreted with caution because of the small number of patients and heterogeneity of response
- The pamidronate group had greater disease severity at baseline than the control group, and the groups were not matched for pain severity; this soes not invalidate the findings, but larger future studies are needed
- Ideally, pamidronate should be combined with physical and cognitive-behavioral therapy

Comments:

- Inclusion and exclusion criteria are not well-described; it is possible that any patient meeting IASP criteria was accepted into the study, but this is not clear
- Since 13 of the 40 patients referred for the study refused to participate because they did not want to be in the control group, it is possible that there were no exclusion criteria
- Method of randomization and concealment of allocation are not described, and success of blinding is not reported; there is a risk of bias
- The lack of numerical display of data makes it difficult to estimate the actual magnitude of the treatment effect; visual inspection of the box plots in Figure 1 suggest that there was no effect in the placebo group and a clinically important effect in the pamidronate group
- Table 1 shows patient global assessment of severity at baseline, 1 month, and 3 months, but does not make sense
- Specifically, the p values are presumably between groups and not within groups, since there is a p value for the unequal baseline values of 0.11
- However, the 3 month scores are exactly equal (5.3), but a p value of 0.026 is reported; this cannot be correct

Assessment: Inadequate to support an evidence statement about pamidronate (many basic pieces of information are incomplete or unclear; risk of bias is present; study is very small)