

**Chrubasik S, Eisenberg E, et al. Treatment of Low Back Pain Exacerbations with Willow Bark Extract: A Randomized Double-Blind Study. Am J Med 2000;109:9-14.**

Design: Randomized clinical trial

Population/sample size/setting:

- 210 patients treated for exacerbations low back pain (94 men, 114 women, mean age 56) in Haifa, Israel
- Eligible patients had at least 6 months of intermittent low back pain not attributable to identifiable causes (such as disc prolapse, hip disease, inflammatory arthritis, spondylolisthesis), with current pain level of at least 5 on a 10 point VAS
- Exclusion criteria included serious illness, history of drug or alcohol abuse, requirement for psychotherapeutic agents, and pregnancy

Main outcome measures:

- Randomized to placebo (n=70), low dose willow bark (n=70), or high dose willow bark (n=70)
- Willow bark was pharmaceutical grade equivalent to 120 mg salicin per day in the low dose and 240 mg per day in the high dose group
- Each patient received two identical appearing red pills for use each day of the 4 week study period: in the placebo group, both pills contained lactose; in the low dose group, one contained lactose and the other willow bark extract, and in the high dose group, both contained willow bark extract
- Patients were allowed to supplement their assigned treatment with tramadol liquid in doses up to 400 mg per day
- Main efficacy measure was response to treatment, defined as being pain-free without tramadol for at least 5 days during the final week of treatment
- Patients were contacted weekly by telephone to monitor pain and adverse effects in addition to the doses of tramadol taken in the previous week
- 191 of the 210 patients randomized completed the trial
- For the main outcome, response to treatment was recorded for 4 patients (6%) in the placebo group, for 15 (21%) in the low dose willow bark group, and for 27 (39%) patients in the high dose group
- One adverse effect (allergy with swollen eyes and pruritus) was recorded in the low-dose willow bark group; these symptoms resolved 2 days after discontinuing treatment

Authors' conclusions:

- Willow bark extract standardized to yield 240 mg of salicin is effective in treating low back pain, and may be useful in patients who cannot tolerate NSAIDs
- Salicin is a prodrug, which is metabolized to salicylic acid, but this is not likely to account for the analgesic effects of willow bark extract, since the

yield of 240 mg of salicin is approximately equivalent to 50 mg of salicylic acid, which is lower than the expected analgesic dose

Comments:

- Although concealment of allocation is not clearly described, the randomization and blinding appear to control important sources of bias that would threaten the internal validity of the study
- The study medication was prepared by a German pharmaceutical firm which guarantees a salicin content free of heavy metals and microorganisms; over-the-counter preparations may not have this guarantee
- The study period was only 4 weeks in duration, but the low occurrence of adverse effects would probably impose few barriers to long-term use

Assessment: Adequate for evidence that pharmaceutical grade willow bark extract may be an effective alternative treatment in patients for whom NSAIDs are to be avoided