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Holistic Herbal Practice: Bone maintenance and repair

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SUMMARY

Bone repair is a condition for which conventional Western-style medicine offers "no treatment" (beyond stabilization and adequate calcium uptake). The present discussion has consciously gone beyond the Cochrane levels of certainty, and has preferred to look to cutting-edge clinical inference drawn from animal or human studies, with the over-riding limitation of first doing no harm.

Letters to Editor

KEY WORDS: bone-repair, herbal, holistic, PTHrP (ParaThyroidHormone-relatedProtein)

Doing nothing (other than stabilization) in the case of broken bones is the conventional (Western) medicine approach. However the task of the practicing herbal clinician is to work with and enhance natural healing processes. The assistance of bone repair has been raised Sethi & Aggarwal although that review concentrated upon estrogen-related therapies, with only a passing assertion that herbal supplements would be beneficial.

The relatively recently discovery of the peptide PTHrP (ParaThyroidHormone-related Protein), and its benefit to (animal) bone metabolism and accelerated repair leads to inferences regarding PTHrP in human osteo-related interventions . Sethi & Aggarwal caution the side effects of exogenous PTHrP ("nausea and weakness") however for the herbal practitioner, there remains a viable PTHrP pathway for assisting rate of bone repair: the herbally-stimulated elevation of endogenous PTHrP, via supplements with no deleterious side effects.

Targeting endogenous PTHrP with the goal of bone-repair:

(1) Panax Ginseng

This herb is is generally seen as an adaptogenic but is now specifically reported to elevate PTHrP6.

(2) Curcumin.

". . . the pharmacodynamic effects of chemically-complex turmeric extracts relative . . . secretion of PTHrP . . . bone metastasis" . Curcumin is widely available, and blends with Boswellia may further assist in swelling/pain reduction in the acute phase of the injury/repair.

(3). Exercise and PTHrP.

With the negative consequences of inactivity being well understood, the standard clinical advice may not go beyond the dictum that pain should be an indication for exercise limits. However for PTHrP-induced bone repair, it is intensive exercise which has been shown to up-regulate the expression of PTHrP (in animal studies) , whereas regular (as opposed to intense) exercise did not result in improved bone repair . A program of "interval training" on a stationary exercise bike may be achievable in many cases of simple fracture, leading to the general benefit of maintaining fitness combined with the potential enhancement of PTHrP-based bone healing.

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