pharmacokinetics of alendronate an overview

Tight junction modulation and its relationship to drug delivery. Alendronate treatment results in an early and dose-dependent inhibition of skeletal resorption, which can be followed clinically with biochemical markers, and which ultimately reaches a plateau and is slowly reversible upon discontinuation of the drug. Conclusions Current safety and efficacy data justify further investigation of once-weekly dosing of alendronate. Removal of the drug from bone reflects the underlying rate of turnover of the skeleton. Objective This paper describes the rationale and supporting data for once-weekly dosing of alendronate. Supplemental Content Full text links. Additionally, the brush-border membrane is negatively charged and will often repel the negatively charged phosphate groups on the bisphosphonate from the epithelium and tight junctions. Didn't get the message? Orally administered medications can cross the gastrointestinal epithelium by either the transcellular route or the paracellular route depending on their physiochemical properties. The paracellular route requires a drug to be resistant to enzymatic degradation, small, and hydrophilic. J Clin Endocrinol Metab.Pharmacokinetics of alendronate. Porras AG(1), Holland SD, Gertz BJ. Author information: (1)Merck Research Laboratories, Clinical Pharmacology and Drug Metabolism, Rahway, New Jersey, USA. Alendronate (alendronic acid; 4-aminohydroxybutylidene bisphosphonate) has demonstrated effectiveness orally in the. addition, bone formation exceeds bone resorption at these remodeling sites, leading to progressive gains in bone mass. Pharmacokinetics. Absorption. Relative to an intravenous (IV) reference dose, the mean oral bioavailability of alendronate in women was % for doses ranging from 5 to 70 mg when administered after. Clinically, the pharmacokinetics of alendronate have been characterised al- most exclusively based on urinary excretion data because of the extremely low concentrations achieved after oral administration. After intravenous administra- tion of radiolabelled alendronate to women, no metabolites of the drug were detectable. Apr 19, - The objective of this study was to examine the absorption of alendronate from formulated transdermal delivery systems in rats and humans. When alendronate was applied to rats by transdermal delivery systems (mg) and oral administration (30 mg/kg), a statistically significant difference was found in the. May 8, - This topic review provides an overview of the pharmacology of the bisphosphonates and of the differences between the preparations that are either currently Alendronate, neridronate, ibandronate, pamidronate, risedronate, and zoledronic acid have a nitrogen group and are called nitrogen-containing. Pharmacokinetics. Alendronate is a nitrogen-containing [Chemical:PA] (N-BP) that prevents bone loss, increases bone mineral density and reduces the risk of osteoporotic fractures. It is widely used in the management of osteoporosis and other diseases of high bone turnover [Articles, Alendronate Sodium reference guide for safe and effective use from the American Society of Health-System Pharmacists (AHFS DI). It is sold under the trade name Fosamax Plus D. Pharmacokinetics Alendronate is absorbed orally. Food and beverages other than plain water can decrease its absorption and bioavailability by about 40%. After absorption, alendronate is stored in the skeleton and does not appear to be metabolized. It is excreted in the. The drug is approved for postmenopausal osteoporosis, male osteoporosis, glucocorticoid-induced osteoporosis, and Paget's disease of bone. Oral bioavailability is poor. Although alendronate is generally safe, esophageal ulceration has occurred in some patients. Pharmacokinetics. Alendronate is administered orally, but. Overview. Alendronate (Na) is aminobisphosphonate and inhibitor of osteoclast-mediated bone resorption. Chemically Alendronate (Na) is identified as Pharmacokinetics. Oral absorption of Alendronate (Na) is found to be %. Volume of distribution is found to be l/kg and plasma protien binding is about 78%.