MEDICAL UPDATES

EGYPHAR

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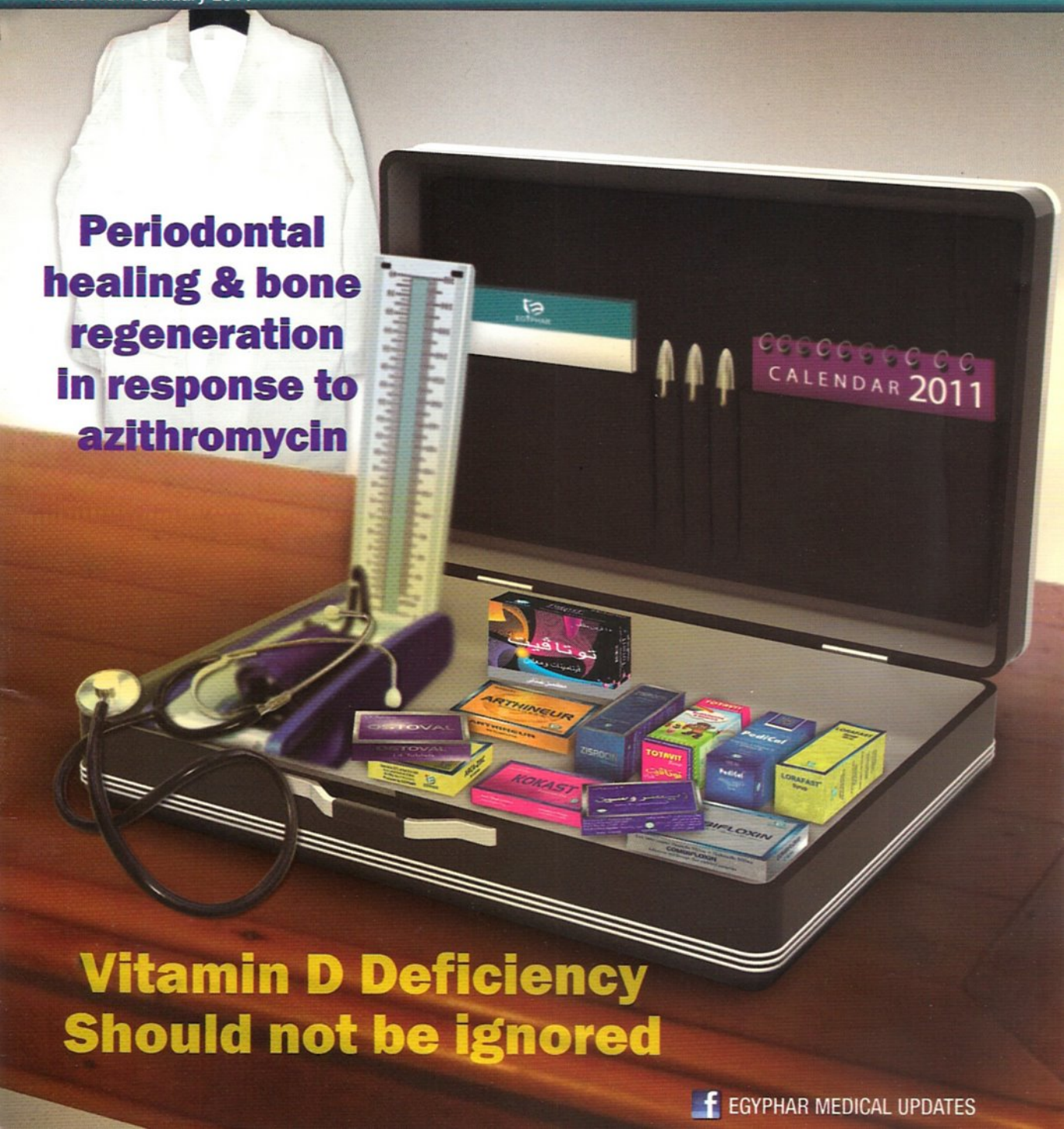

Periodontal healing & bone regeneration in response to azithromycin

Vitamin D Deficiency Should not be ignored

EGYPHAR MEDICAL UPDATES

Can Respir J. 2009 May-Jun;16 Suppl A:17A-31A.

Montelukast as add-on therapy

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Objective:

To evaluate the effectiveness of montelukast as add-on therapy for patients diagnosed with asthma and concurrent allergic rhinitis who remain uncontrolled while receiving inhaled corticosteroid (ICS) monotherapy or ICS/long-acting beta-2-agonist (LABA) therapy in a community practice setting. DESIGN: An eight-week, multicentre, open-label, observational study. Patients were 15 years of age or older and, while treated with an ICS or ICS/LABA, had allergic rhinitis and uncontrolled asthma symptoms by at least two criteria as per the Canadian Asthma Consensus Guidelines. The primary outcome measure was the percentage of patients with controlled asthma symptoms after eight weeks of treatment with montelukast 10 mg once daily added to ICS or ICS/LABA therapy. RESULTS: In total, 1004 patients participated in the survey phase of the study. Of these patients, 319 continued in the treatment phase and 301 (94.4%) completed the eight-week assessment. At baseline, all patients had uncontrolled asthma symptoms based on the Canadian Asthma Consensus Guidelines; at the eight-week assessment, 229 patients (76.1%) achieved asthma control. According to the Asthma Control Questionnaire (as determined by scores of 0.75 or less), 164 patients (54.7%) achieved well-controlled asthma at week 8. The mean (+/- SD) Asthma Control Questionnaire score decreased from 2.03+/-0.80 to 0.92+/-0.80 (P<0.001) for all patients, representing a clinically significant improvement. A statistically and clinically significant reduction in the overall Mini Rhinitis Quality of Life Questionnaire score was achieved with a decrease from 2.57+/-1.20 to 1.12+/-1.00 (-1.45+/-1.35; P<0.001). Patient and physician satisfaction rates with montelukast add-on therapy were also significantly increased when compared with baseline treatment.

CONCLUSION:
Montelukast add-on therapy is effective for managing asthma and allergic rhinitis symptoms in patients who were previously uncontrolled with ICS or ICS/LABA treatment.

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Vitamin D deficiency: the time to ignore it has passed.

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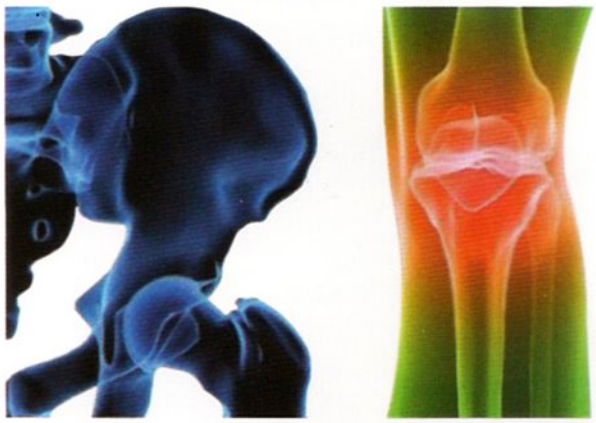
Abstract:

It is true to say that it is just over the past decade and even more so in this new decade that it has become appreciated how vitally important vitamin D is for optimum health. This 'sunshine' vitamin could justifiably be called 'the nutrient of this decade'. Until recently, vitamin D was known primarily for its role in bone health. However, as a result of advances in research this perspective has changed. While it is true to say that the classic function of vitamin D is to control calcium and vitamin D metabolism, **bone health.** There is much ongoing research with regard to its emerging role in immunopathology, as a potent inhibitor of cellular growth, stimulator of insulin secretion, modulator of immune function and inhibitor of renin production. This review discusses the current evidence with regard to the clinical consequences of vitamin D deficiency and underscores the fact that physicians should be vigilant in searching for and treating this preventable and treatable condition. Furthermore, this review highlights the fact that the time is opportune for rheumatologists to agree upon clinical guidelines to advise practitioners as to when and in which patients to check for, what target vitamin D level to aim for and how best to treat vitamin D deficiency.

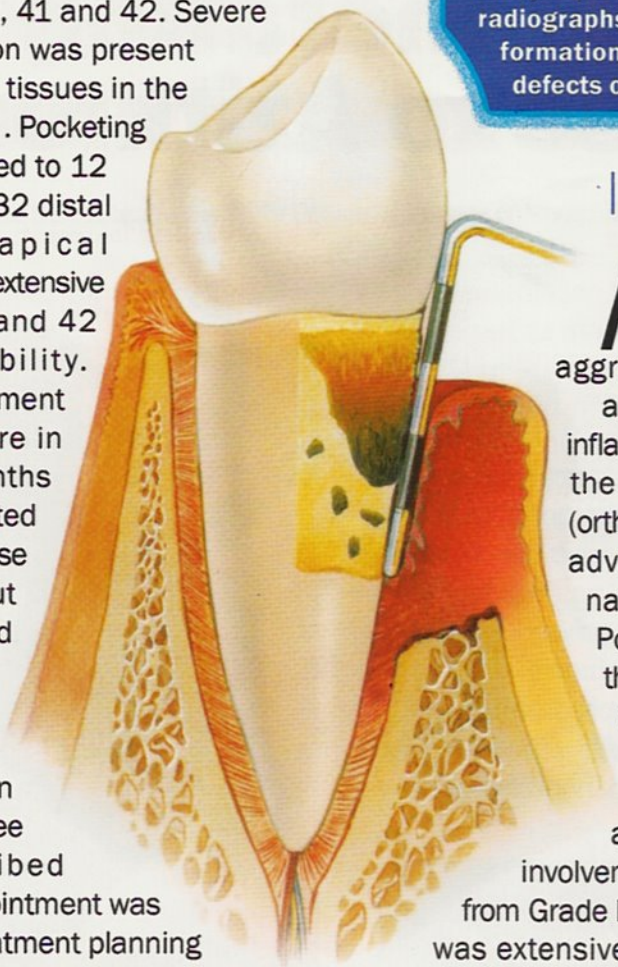
we now know that the importance of vitamin D spreads far wider than just bone health.



There is much ongoing research with regard to its emerging role in immunopathology, as a potent inhibitor of cellular growth, stimulator of insulin secretion, modulator of immune function and inhibitor of renin production. This review discusses the current evidence with regard to the clinical consequences of vitamin D deficiency and underscores the fact that

Case 1:

A 65- year-old female non-smoker with no contributory medical conditions presented with severe localized chronic periodontitis affecting the 37, 32, 41 and 42. Severe gingival inflammation was present through the gingival tissues in the lower anterior region . Pocketing exuding pus extended to 12 mm on the 42 and 32 distal surfaces; periapical radiographs showed extensive localized. The 32 and 42 had Class III mobility. Non-specialist treatment provided else where in the prvious six months had included repeated "cleaning" and a course of metrovidazole but this had not improved the condition according to the patient. A single course of azithromycin 500 mg daily for three days was prescribed and a follow-up appointment was made for further treatment planning and management. However, the patient did not attend again until seven months following hereinitial consultation.



At this time, the patient reported that her periodontal symptoms had improved noticeably soon after taking azithromycin, she no longer had a bad taste in her mouth and her once loose teeth were "stronger".After seven months, the previously intense gingival inflammation through the attached gingiva around the affected lower anterior teeth had resolved, pocket depths and tooth mobility had decreased markedly even calculus and plaque were present.Periapical radiographs indicated likely bone formation at the bases of the defects on the 32 and 42 .

Case 2:

A 43-year-old female presented with advanced generalized aggressive periodontitis and associated severe gingival inflammation with suppuration in the molar segment . An OPG (orthopantomogram) shows the advanced and aggressive nature of the bone loss . Pockets extended to mm on the 25 and ranged between 7 to 10 mm on most tooth surfaces aound all the premolars and lower anterior teeth.Furcation involvement and mobility ranged from Grade II to III. Plaque Formation was extensive but supra and subgingival calculus deposits were light. The patient reported being highly stressed, had hypertension controlled by perindopril, was a non-smoker and had a strong family history of periodontal problems. Subsequent medical investigations showed her to have pre-diabetes. A single course of azithromycin 500 mg was prescribed as in Case 1 and arrangement were made for further treatment planning and managment. The patient reported that improvement in her periodontal symptoms

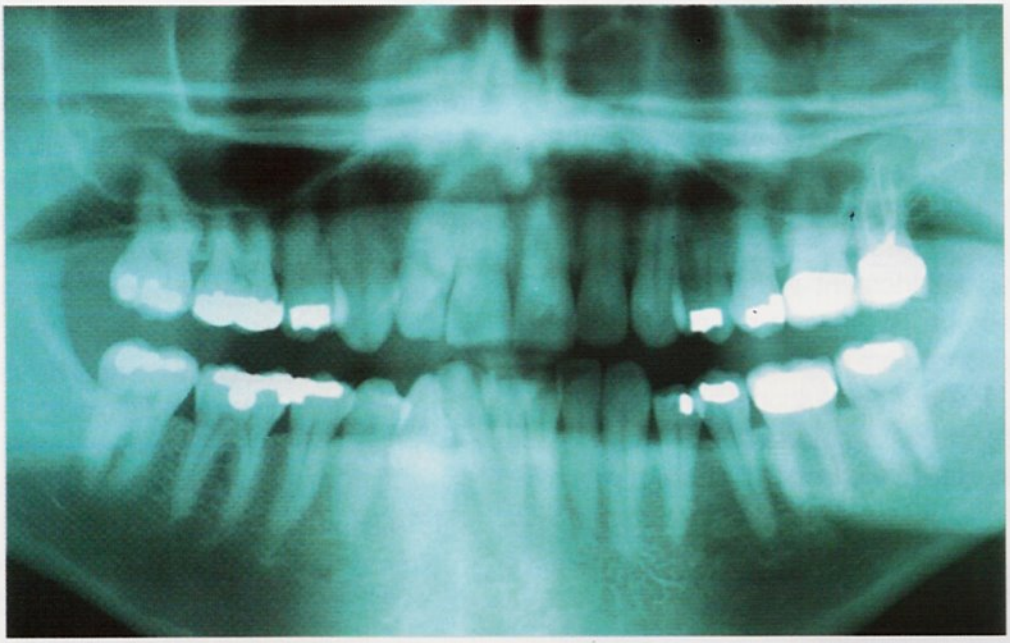
started approximately three days after finishing the course of azithromycin. After three weeks, a large amount of gingival recession had occurred around the molar teeth. All teeth were debrided subgingivally with a sonic scaler only. Further gingival recession and resolution of gingival inflammation occurred in the following five weeks when additional subgingival debridement with a sonic scaler was carried out. The patient did no return for more periodontal care until six months after her initial visit. The only conventional periodontal treatment provided after her initial consultation was subgingival debridement of all teeth with a sonic scaler after three weeks and two months.

There had been continuing improvement in all periodontal parameters with resolution of inflammation, pocket depth reduction and remodelling of gingival tissues .

An OPG taken six months after the initial radiograph shows dramatic improvement in bone levels and fill of bony defects around many teeth .

Case 3:

A 62-year-old male attended for consultation with severe localized and generalized chronic periodontitis and buccal gingival overgrowth, particularly in the 47 - 43 region . On first presentation, the 12, 22, 24, 35 and 34 had been extracted by the referring dentist. All teeth had significant periodontal pocketing, ranging from 5 to 12 mm. All molars had Class II furcation involvement and ranged in mobility from Grade II to III. Three was profuse bleeding on probing and severe chronic gingivitis throughout. Hits oral hygiene was very poor and deposits of supra and subgingival calculus were heavy.
He was a poorly controlled insulin-dependent Type 2 diabetic (his HbA1c was 8.7%) and had quit smoking some 35 years ago. He was taking diltiazem (a calcium channel blocker), quinapril and irbesartan to control hypertension. A single course if azithromycin 500 mg was prescribed before commencement of periodontal treatment. He was given a chlorhexidine gel (0.2% PDS chlorofluor) to apply with toothbrush instead of toothpaste and was appointed for further treatment planning and management. treatment consisted of monthly visits of supra and subgingival debridement of all teeth with a sonic scaler and oral hygiene instruction. Two weeks after taking azithromycin and before periodontal debridement had commenced, the patient reported considerable improvement in his periodontal symptoms. Over the following months, there was clinically evident remodelling of the gingival tissues, with resolution of the gingival overgrowth in the 47-43 buccal region after eight months. There was no change to the patient's antihypertensive medication in this time and no surgical intervention in the area. Exploratory surgery around the 33 revealed that the tooth was cracked mesio-distally, giving an unfavourable prognosis in the longer term. Minor open flap debridement was undertaken in the13-14 area to treat a persisting pocket. Overall pocket depths decreased to the extent that six months after azithromycin was taken, approximately 80% of pockets were reduced to <3 mm by a combination of gingival recession



and healing. Over this time, the patient's diabetes continued to be poorly controlled and his oral hygiene remaind disappointingly poor. An OPG taken nine months after the initial consultation shows stabilization and some consolidation of alveolar bone.

Pocket depth reduction occurred as a combination of inflammation, remodelling and healing of the gingival tissues over time; there was also evidence of regeneration of bone .

This Occurred without periodontal intervention in Case 1 and with subgingival debridement with a sonic scaler in Case 2 and 3. Furthermore, the ongoing resolution of the medication induced gingival overgrowth in Case 3 over nine months showed that the periodontal effects of azithromycin persisted over this time . It is interesting to speculate on the mode of action of azithromycin after observing the positive periodontal responses to it. As a potent, broad-spectrum antibiotic, azithromycin could be active against bacteria in the dental biofilm,7 perhaps accounting for its relatively early effects in reduceing the gingival inflammatory response. Antibiootic activity could be anticipated to last up to two weeks depending on concentrations achieved in the gingival tissues. However, even after a single course, azithromycin' immune-modulating properties may persist over a much longer period due to the high concentrations reached in key cells regulating periodontal function.

More Physical Education for Children Boosts Bone Mass

The American Socity for Bone and Mineral Research

American Society for Bone and Mineral Research.

October 22, 2010 — Increasing the amount of physical activity that children get in school increases the health of their bones and might be one way of preventing the epidemic of hip and other fractures currently seen in adults, Swedish researchers reported here at the American Society for Bone and Mineral Research 2010 Annual Meeting. Children who received 200 minutes per week of physical education at school showed significant increases in bone mass and improvement in bone structure, compared with children who received 60 minutes per week, and the increased intensity of exercise was not associated with more fractures, said Fredrik Thure Leifsson Detter, MD, from Lund University Malmö University Hospital in Sweden. "There have been other studies on exercise interventions in children but they have been limited to 24 months. Those studies have suggested that increasing exercise time would result in more trauma and, as a result, more fractures," Dr. Detter told Medscape Medical News. "We wanted to have another look at this, so we designed this population-based study with a much longer duration — 5 years." The study involved 2395 children, 7 to 9 years of age, who were randomized to 40 minutes per day of physical education in school (for a total of 200 minutes per week), or to the usual amount of physical education (60 minutes per week). There were 362 girls and 446 boys in the increased-exercise intervention group (3152 person-years), and 780 girls and 807 boys in the usual-exercise control group (6761 person-years). The investigators recorded skeletal development in 54 girls and 83 boys in the intervention group and 53 girls and 58 boys in the control group annually using dual energy x-ray absorptiometry. They also recorded changes in bone mineral density (BMD) in the spine and femoral neck, and bone width in the femur. Forearm and tibia measurements were performed at the end of the study. There were 20 fractures per 1000 person-years in the intervention group, and 18.5 fractures per 1000 person-years in the control group. The investigators

reported these results as a rate ratio of 1.08 (95% confidence interval [CI], 0.79 to 1.47). The children in the intervention group had significantly greater gains in spine BMD than controls. For girls, the mean annual gain in spine BMD was 0.01 g/cm2 (95% CI, 0.007 to 0.020); for boys, it was 0.006 g/cm2 (95% CI, 0.003 to 0.010). Girls in the intervention group also had larger gains in femoral neck BMD than girls in the control group (0.007 g/cm2; 95% CI, 0.00 to 0.02), Dr. Detter reported. Gain in femur width was also larger in the intervention girls (0.3 mm; 95% CI, 0.00 to 0.02) and the intervention boys (0.1 mm; 95% CI, 0.0 to 0.4) than in the control girls and boys. At the end of the 5-year study period, the girls in the intervention group had a significantly larger mid-radial area (11 mm2; 95% CI, 0.6 to 21.0; P = 0.006) than the girls in the control group.They also had significantly more tibia cortical bone mineral content (0.2 g; 95% CI, 0.0 to 0.4; P =.01), a larger mid-tibial area (17 mm2; 95% CI, −3 to 36; P =.03), and a larger mid-tibial cortical area (17 mm2; 95% CI, 2 to 31; P = .009). Boys in the intervention group had a larger mid-radial area (7 mm2; 95% CI, −3 to 18; P = .04) than boys in the control group.

"I think we have a very important message for clinicians, and for parents and teachers," Dr. Detter said in an interview with Medscape Medical News. "By increasing the amount of physical activity in a school curriculum-basedprogram, you can improve many skeletal parameters, including bone mass and bone size. Importantly, this does not affect the fracture risk, so it is not harmful.

That had been the fear. People thought that if kids were running around, doing more sports, and so on, they would have more of a chance of falling and fracturing, but we did not find this." In the long term, increasing physical education programs in schools might turn out to benefit people as they get older, he suggested. "It's safe to initiate such an intervention, and this could be beneficial for the skeleton, especially with regard to preventing fragility fractures in old age. We know that hip fracture is epidemic, and this is one way to possibly prevent this epidemic." Ingrid Holm, MD, MPH, from the Children's Hospital Boston in Massachusetts, who moderated the session, told Medscape Medical News that the study by the Swedish group was very well designed. "What has been happening, at least in our schools with programs that emphasize academic achievement, is that the hours of physical education have gone down since when we were young. This study is a push to maybe revisit that notion, and to think about increasing the hours of physical activity in school. It was good that they showed that physical activity didn't make the kids fracture more, and that there were some important bone gains."

American Society for Bone and Mineral Research (ASBMR) 2010 Annual Meeting: Abstract 1103 Presented October 17, 2010.

Dr. Detter and Dr. Holm have disclosed no relevant financial relationships

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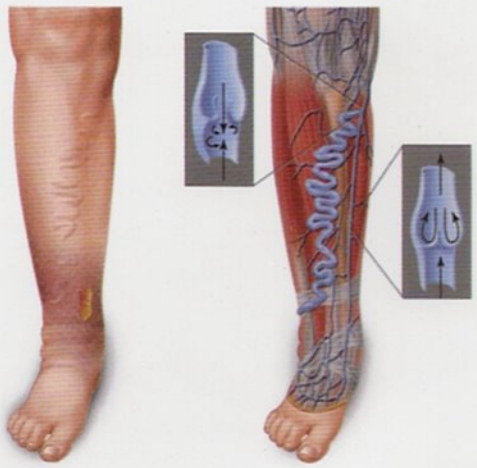
Impact of obesity on venous hemodynamics of the lower limbs.

Willenberg T, Schumacher A, Amann-Vesti B, Jacomella V, Thalhammer C, Diehm N, Baumgartner I, Husmann M.

Abstract:

BACKGROUND: Obesity is a risk factor for chronic venous insufficiency and venous thromboembolism. The aim of this study was to compare venous flow parameters of the lower limbs assessed by duplex ultrasound scanning in obese and nonobese individuals according to body mass index (BMI). METHODS: Venous hemodynamics were studied in a prospective cohort study in nonobese (BMI <25 kg/m(2)) and obese individuals (BMI >30 kg/m(2)). Diameter, flow volume, peak, mean, and minimum velocities were assessed. RESULTS: The study examined 36 limbs in 23 nonobese individuals and 44 limbs in 22 obese individuals. The diameter of the femoral vein was significantly greater in obese (8.5 +/- 2.2 mm) vs nonobese (7.1 +/- 1.6 mm; P = .0009) limbs. Venous peak and minimum velocities differed between nonobese and obese individuals (14.8 +/- 7.2 vs 10.8 +/- 4.8 cm/s [P = .0071] and 4.0 +/- 3.6 vs 1.7 +/- 6.3 cm/s [P = .056]). Calculation of venous amplitude and shear stress showed significantly higher values in nonobese vs obese (18.8 +/- 9.4 vs 12.5 +/- 9.3 cm/s [P = .003] and 2.13 +/- 2.2 dyn/cm(2) vs 1.6 +/- 2.7 dyn/cm(2) [P = .03]). Spearman rank correlation revealed a significant inverse correlation between waist-to-hip ratios and waist circumference and venous peak velocity, mean velocity, velocities amplitude (peak velocity-minimum velocity), and shear stress.

CONCLUSION: Lower limb venous flow parameters differ significantly between healthy obese and nonobese individuals. These findings support the mechanical role of abdominal adipose tissue potentially leading to elevated risk for both venous thromboembolism and chronic venous insufficiency.



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