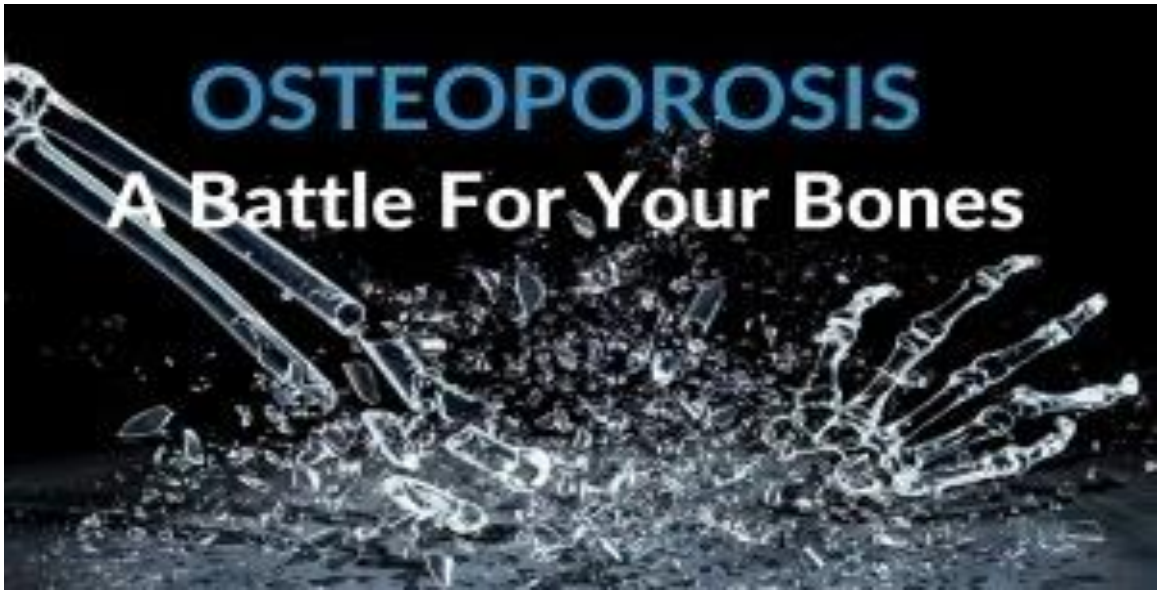

ΣΤΡΑΤΗΓΙΚΕΣ ΔΙΑΧΕΙΡΙΣΗΣ ΟΣΤΕΟΠΟΡΩΣΗΣ - ΕΝΑΡΞΗ ΑΓΩΓΗΣ

ΔΕΔΟΜΕΝΑ ΚΑΙ ΠΡΟΒΛΗΜΑΤΙΣΜΟΙ ΓΙΑ ΤΗΝ ΑΡΧΙΚΗ ΕΠΙΛΟΓΗ ΦΑΡΜΑΚΕΥΤΙΚΗΣ ΑΓΩΓΗΣ

ΚΑΤΕΡΙΝΑ ΜΑΤΣΟΥΚΑ
ΡΕΥΜΑΤΟΛΟΓΟΣ
ΚΑΛΑΜΑΤΑ - ΙΟΥΝΙΟΣ 2021

Σύγκρουση Συμφερόντων

- Τιμητική αμοιβή ομιλίας από AMGEN

- Εκπαιδευτικές-ερευνητικές-συμβουλευτικές επιχορηγήσεις την τελευταία διετία:

  UCB , AMGEN

ΠΕΡΙΣΤΑΤΙΚΟ ΠΡΟΣ ΣΥΖΗΤΗΣΗ

- **Γυναίκα ηλικίας 69 ετών**
- **Ατομικό αναμνηστικό**

Ψωριασική αρθρίτιδα από 5ετιας υπό αγωγή με υποδόρια ενέσιμη μεθοτρεξάτη 15 mgr/εβδομάδα[Metoject] και με χαμηλή ενεργότητα νόσου . Ηπιο εξάνθημα κνημών και τριχωτού κεφαλής από 2000

ΣΥΝΟΣΗΡΟΤΗΤΕΣ **Ινομυαλγία** υπό αγωγή με Cymbalta

Υπέρταση ρυθμισμένη υπό αγωγή

ΣΔ τ 2 ήπιος υπό per os αγωγή

- Υψος = 165cm
- Βάρος = 82 kgr
- Κάπνισμα [+]
- Αλκοόλ [-]
- Ιστορικό # μητέρας [-]
- Ελάχιστη άσκηση
- Εμμηναρχή σε ηλικία 14 ετών - Εμμηνόπαυση σε ηλικία 49 ετών

ΠΕΡΙΣΤΑΤΙΚΟ ΠΡΟΣ ΣΥΖΗΤΗΣΗ

- **1η DEXA προ 12ετίας** **Tsc ΟΜΣΣ = - 1.7**
  Tsc ΑΡ ΙΣΧΙΟΥ = -0,9

- **DEXA 2017** **Tsc ΟΜΣΣ= -2,2**
  Tsc ΑΡ ΙΣΧΙΟΥ= -1,9
  FRAX **Λήψη ασβεστίου/D3**

- **DEXA 2021** **Tsc ΟΜΣΣ = -2,8**
  Tsc ΑΡ ΙΣΧΙΟΥ = -2,5

ΔΙΑΓΝΩΣΤΙΚΗ ΚΑΙ ΘΕΡΑΠΕΥΤΙΚΗ ΠΡΟΣΕΓΓΙΣΗ ???

ΠΕΡΑΙΤΕΡΩ ΔΕΔΟΜΕΝΑ

- **Ro ΟΜΣΣ PR/ ΘΜΣΣ PR** = χωρίς παθολογικά ευρήματα

- **ΕΡΓΑΣΤΗΡΙΑΚΟΣ ΕΛΕΓΧΟΣ**

  Ht=38,3 Λ=7500 ΤΚΕ=24 cRP=0,80mgr/dL
  Ca =9,2 P=3,9 23(OH)D3=25,4ng/ml SGOT=24
  SGPT=25 ALP=85 TSH=1,2 Κρεατινίνη=1,1
  Σ=100 Η/Φ λευκ =χωρίς παθολογικά ευρήματα
  Χοληστερίνη=258 HDL=54

Παρακαλείστε να απαντήσετε στις παρακάτω ερωτήσεις για τον υπολογισμό της δεκαετούς πιθανότητας κατάγματος βάσει της οστικής πυκνότητας.

Χώρα: Ελλάδα Όνομα/Κωδικός:

Σχετικά με τους παράγοντες κινδύνου

Ερωτηματολόγιο:

1. Ηλικία (μεταξύ 40 και 90 ετών) ή την ημερομηνία γέννησης
   Ηλικία: 69 Ημερομηνία γέννησης: Ε: Μ: Η:
2. Φύλο ○ Άνδρας ◉ Γυναίκα
3. Βάρος (κιλά) 82
4. Ύψος (εκατοστά) 165
5. Προηγούμενο κάταγμα ◉ Όχι ○ Ναι
6. Ιστορικό κατάγματος ισχίου σε γονέα ◉ Όχι ○ Ναι
7. Κάπνισμα ○ Όχι ◉ Ναι
8. Γλυκοκορτικοειδή ◉ Όχι ○ Ναι
9. Ρευματοειδής αρθρίτιδα ◉ Όχι ○ Ναι
10. Δευτεροπαθής οστεοπόρωση ◉ Όχι ○ Ναι
11. 3 ή περισσότερες μονάδες αλκοόλ ημερησίως ◉ Όχι ○ Ναι
12. BMD αυχένα μηριαίου (g/cm^2)

GE-Lunar 0.692 T-score: -2.5

Καθαρισμός πεδίων Υπολογισμός

ΔΜΣ: 30.1
Η δεκαετής πιθανότητα κατάγματος (%)
με BMD

Μείζον οστεοπορωτικό κάταγμα	13
Κάταγμα ισχίου	6.2

Εάν έχετε μια τιμή TBS, κάντε κλικ εδώ: Ρυθμίστε με TBS

Μετατροπή του βάρους

Λίβρες → κιλά

Μετατροπή

Μετατροπή του ύψους

Ίντσες → εκατοστά

Μετατροπή

00216814

Άτομα με κίνδυνο κατάγματος που αξιολογήθηκαν από την 1η Απρ. 2012

ΓΕΝΙΚΗ ΓΡΑΜΜΑΤΕΙΑ ΥΠΟΥΡΓΕΙΟΥ ΥΓΕΙΑΣ

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(ΦΕΚ 505/ΥΟΔΔ/13.10.2017)

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ΟΣΤΕΟΠΟΡΩΣΗΣ

Κατόπιν αυτών, οι περιπτώσεις ασθενών με ανάγκη αγωγής είναι οι εξής:

1. Σπονδυλικό κάταγμα χαμηλής βίας
2. Κάταγμα ισχίου χαμηλής βίας
3. Περισσότερα από ένα έτερα κατάγματα χαμηλής βίας (πχ κάταγμα κερκίδας)
4. Μέτρηση οστικής πυκνότητας ισχίου (ολικό ισχίο ή αυχένας μηριαίου) ή/και Ο.Μ.Σ.Σ. με T score ≤ -2,5
5. Μέτρηση οστικής πυκνότητας με T score μεταξύ -1,0 και -2,5 (οστεοπενία) αλλά με 10-ετή καταγματικό κίνδυνο (FRAX) ≥ 10% για μείζον οστεοπορωτικό κάταγμα ή/και ≥ 2,5% για κάταγμα ισχίου, για άτομα ηλικίας 50-75 ετών.
6. Μέτρηση οστικής πυκνότητας με T score μεταξύ -1,0 και -2,5 (οστεοπενία) αλλά με 10-ετή καταγματικό κίνδυνο (FRAX) ≥ 15% για μείζον οστεοπορωτικό κάταγμα ή/και ≥ 5% για κάταγμα ισχίου, για άτομα ηλικίας άνω των 75 ετών.

Σε κάθε άλλη περίπτωση συνιστάται επανεκτίμηση σε χρονικό διάστημα όχι μικρότερο του ενός έτους, εκτός εάν στο μεσοδιάστημα προκύψει κάταγμα χαμηλής βίας, συννοσηρότητα ή άλλη φαρμακευτική αγωγή.

ΕΠΙΛΟΓΗ ΘΕΡΑΠΕΙΑΣ

- **Αποτελεσματικότητα στη μείωση καταγμάτων. Μη κατωτερότητα και ει δυνατόν ανωτερότητα έναντι άλλων θεραπειών**
- **Ασφάλεια και ανοχή**
- **Ικανοποιητική συμμόρφωση ασθενούς - Εύκολη χρήση**
- **Μακρόχρονο θεραπευτικό πλάνο**
- **Συνοσηρότητες**
- **Κόστος και σχέση κόστους - οφέλους**
- **Στα πλαίσια των ελληνικών κατευθυντήριων οδηγιών**
- **Στα πλαίσια των επιθυμιών του ασθενούς**

Archives of Osteoporosis (2019) 14:39
https://doi.org/10.1007/s11657-019-0584-3

ORIGINAL ARTICLE

The 2018 Guidelines for the diagnosis and treatment of osteoporosis in Greece

Polyzois Makras[1,2] · Athanasios D. Anastasilakis[2,3] · George Antypas[2,4] · Efstathios Chronopoulos[2,5] · Evangelia G. Kaskani[2,6] · Aikaterini Matsouka[2] · Dimos K. Patrikos[2,7] · Konstantinos D. Stathopoulos[2,8] · Symeon Tournis[2,9] · George Trovas[9] · Christos Kosmidis[2,10]

ΓΕΝΙΚΗ ΓΡΑΜΜΑΤΕΙΑ ΥΠΟΥΡΓΕΙΟΥ ΥΓΕΙΑΣ

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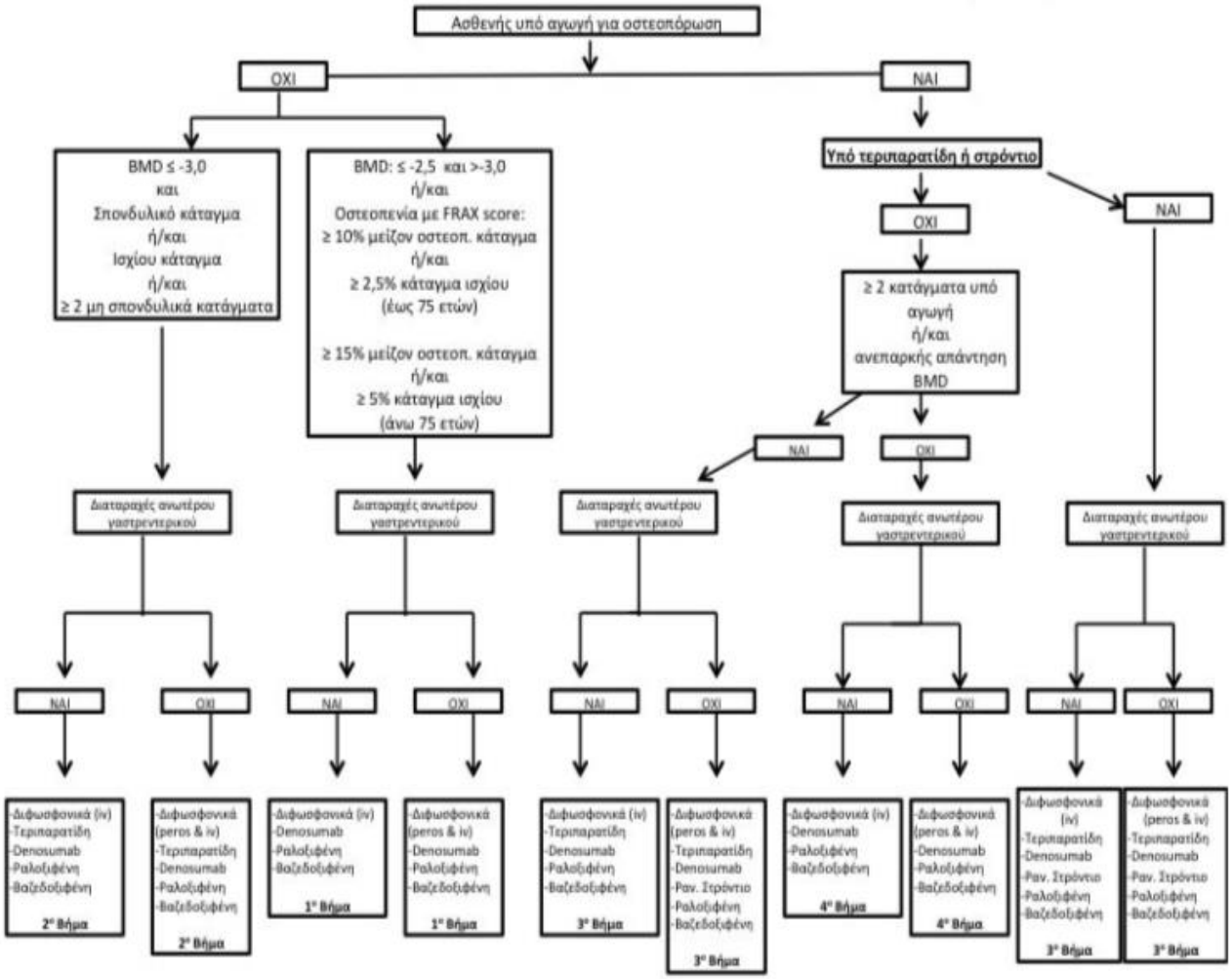
ΑΛΓΟΡΙΘΜΟΣ ΦΑΡΜΑΚΕΥΤΙΚΗΣ ΑΝΤΙΜΕΤΩΠΙΣΗΣ ΟΣΤΕΟΠΟΡΩΣΗΣ (2017)



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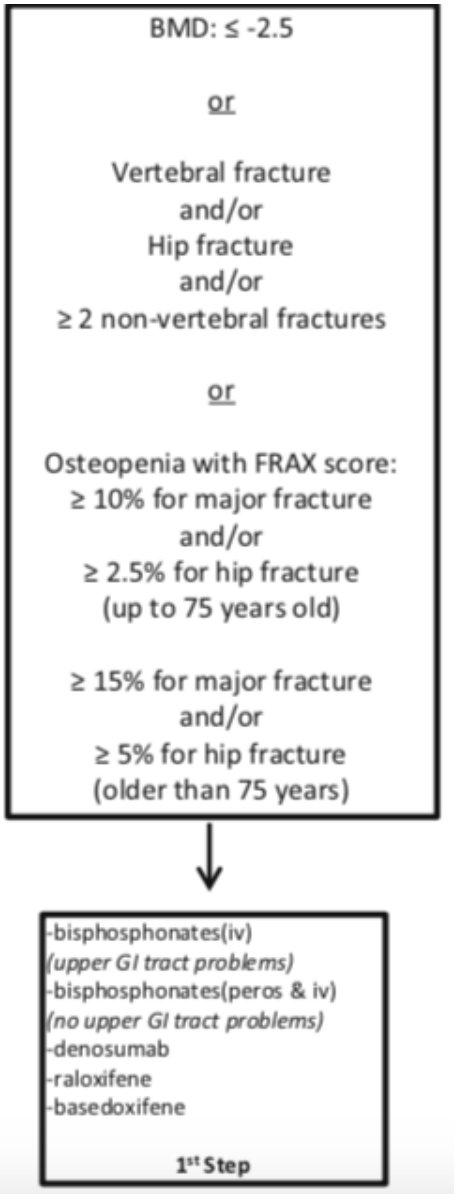
ΠΡΩΤΟ ΒΗΜΑ:
Διφωσφονικά (per os, IV),
Denosumab, SERM's



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ΦΑΡΜΑΚΕΥΤΙΚΗ ΑΓΩΓΗ

1. Στις μετεμμηνοπαυσιακές γυναίκες έχουν διεξαχθεί πολλαπλές πολυκεντρικές μελέτες αλλά και μετα-αναλύσεις αναφορικά στην αντικαταγματική δράση διαφόρων φαρμακευτικών ουσιών. Οι ενδείξεις της αντικαταγματικής δράσης των φαρμακευτικών ουσιών που κυκλοφορούν στη Ελλάδα, παραθέτονται στον Πίνακα που ακολουθεί.

Φαρμακευτική αγωγή	Αντικαταγματική δράση		
	Σπονδυλικά	Μη σπονδυλικά	Ισχίου
Αλενδρονάτη	+	+	+
Ρισεδρονάτη	+	+	+
Ιμπανδρονάτη	+	+*	
Ζολεδρονάτη	+	+	+
Denosumab	+	+	+
Ραλοξιφαίνη	+		
Βαζεδοξιφαίνη	+	+*	
Ρανελικό στρόντιο (αγωγή 2ης γραμμής)	+	+	+*
Τεριπαρατίδη	+	+	

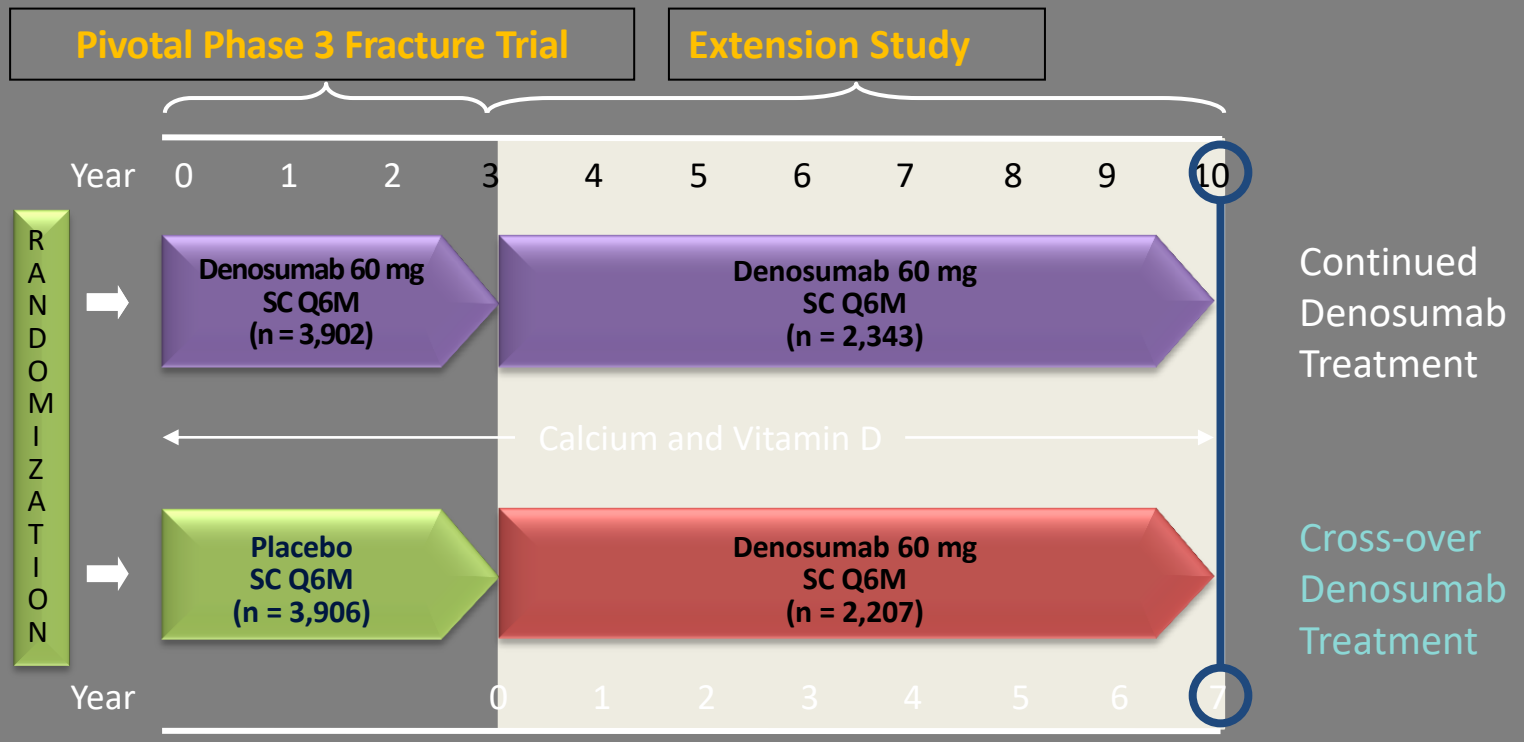
* Post hoc ανάλυση: (η ένδειξη αφορά ειδικές κατηγορίες ασθενών με συγκεκριμένη ηλικία, T-score ή προηγούμενο κάταγμα).

DENOSUMAB VS ΔΙΦΩΣΦΟΝΙΚΑ

- Αποτελεσματικότητα -Αντικαταγματική δράση
- Δεδομένα μακροχρόνιας χορήγησης
- Ασφάλεια και ανοχή
- Συμμόρφωση – ικανοποίηση ασθενών

-ΔΕΔΟΜΕΝΑ ΜΑΚΡΟΧΡΟΝΙΑΣ ΧΟΡΗΓΗΣΗΣ

Study Design
Pivotal Phase 3 Study – Extension



- All patients who completed the pivotal phase 3 fracture trial (completed their 3-year visit, did not discontinue investigational product, and did not miss more than 1 dose) were eligible to participate.

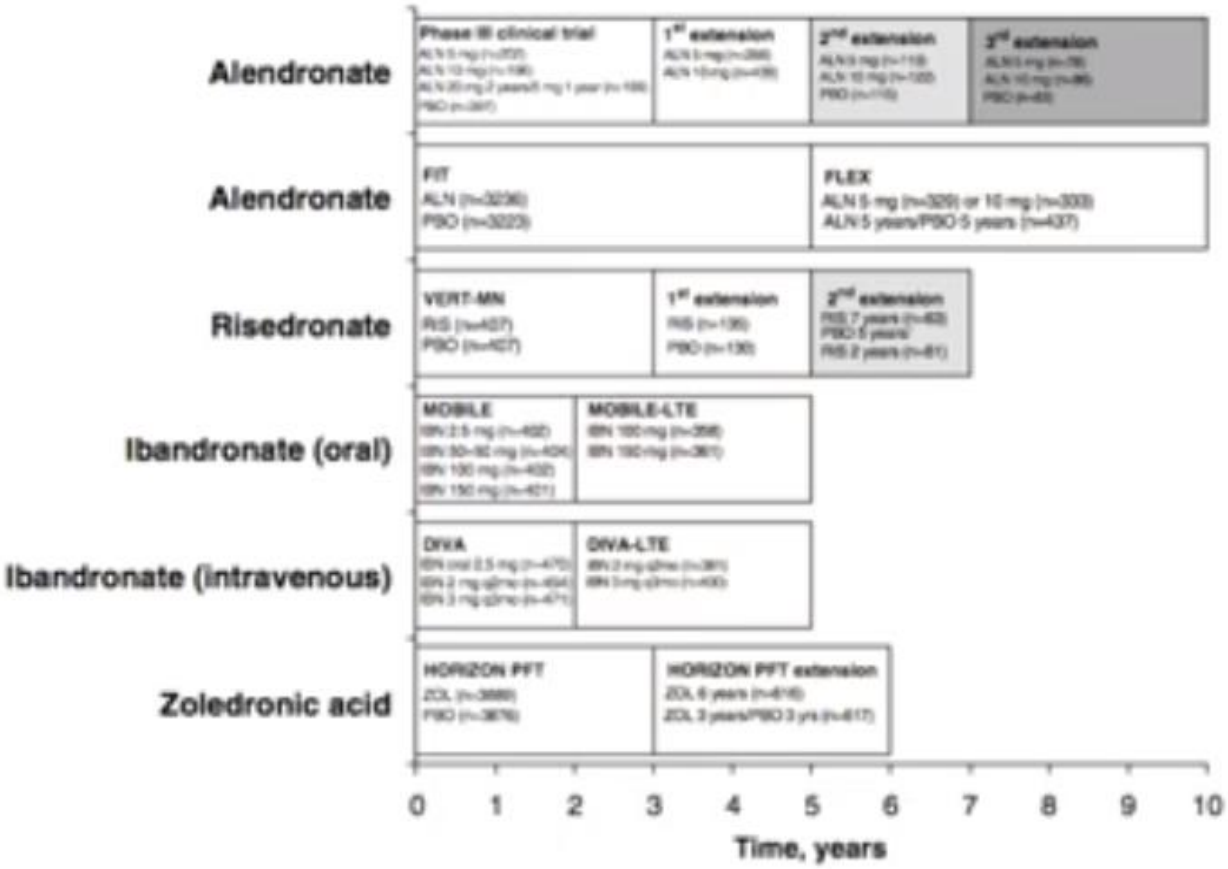
SC = subcutaneous; Q6M = once every 6 months

Adapted from: Bone HG, et al. *Lancet Diabetes Endocrinol.* 2017; 5: 513-523.

Update on long-term treatment with bisphosphonates for postmenopausal osteoporosis: A systematic review

Erik F. Eriksen [a,*], Adolfo Díez-Pérez [b], Steven Boonen [c,1]

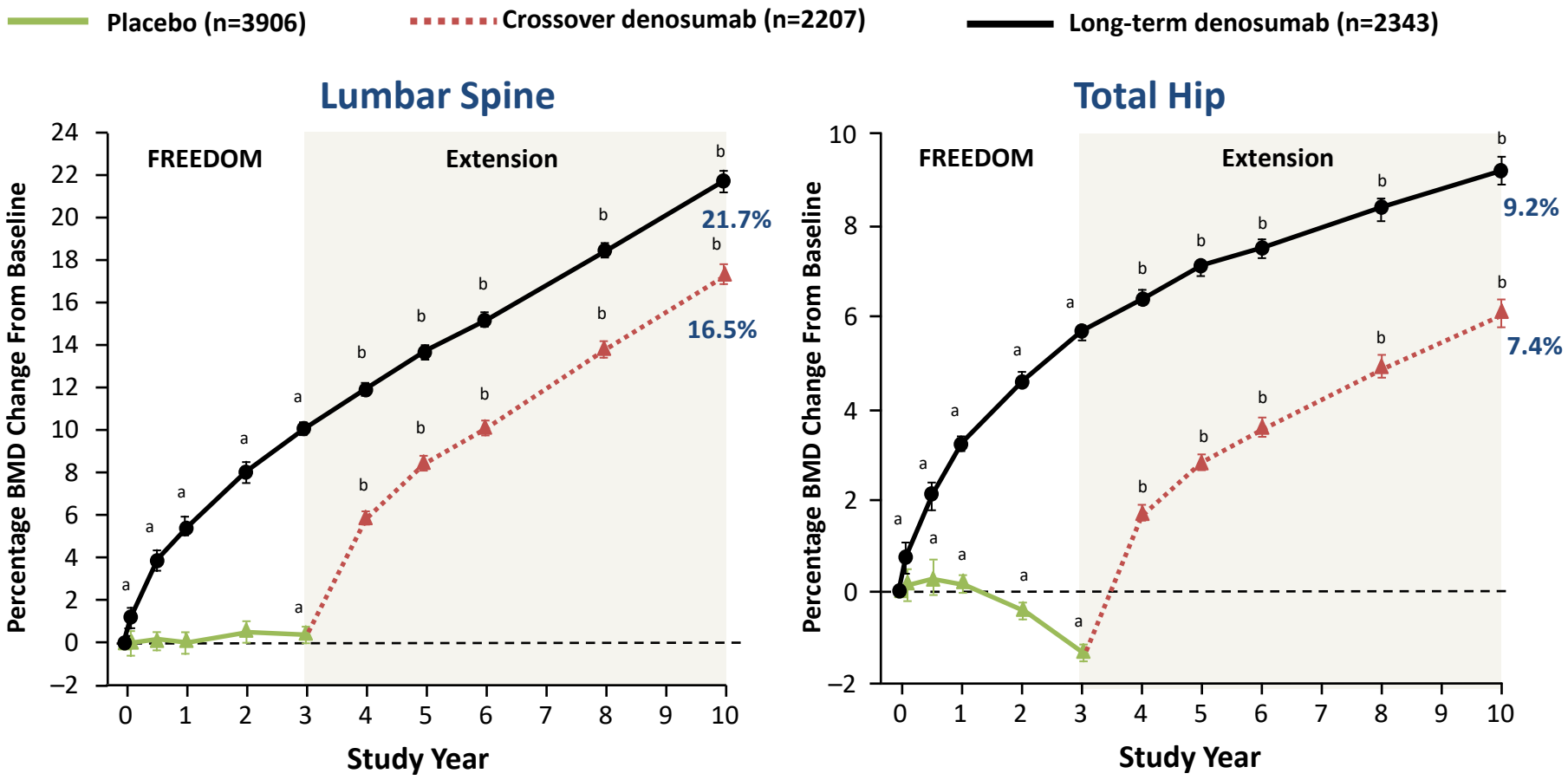
E.F. Eriksen et al. / Bone 58 (2014) 126–135



-Αποτελεσματικότητα
Αντικαταγματική δράση

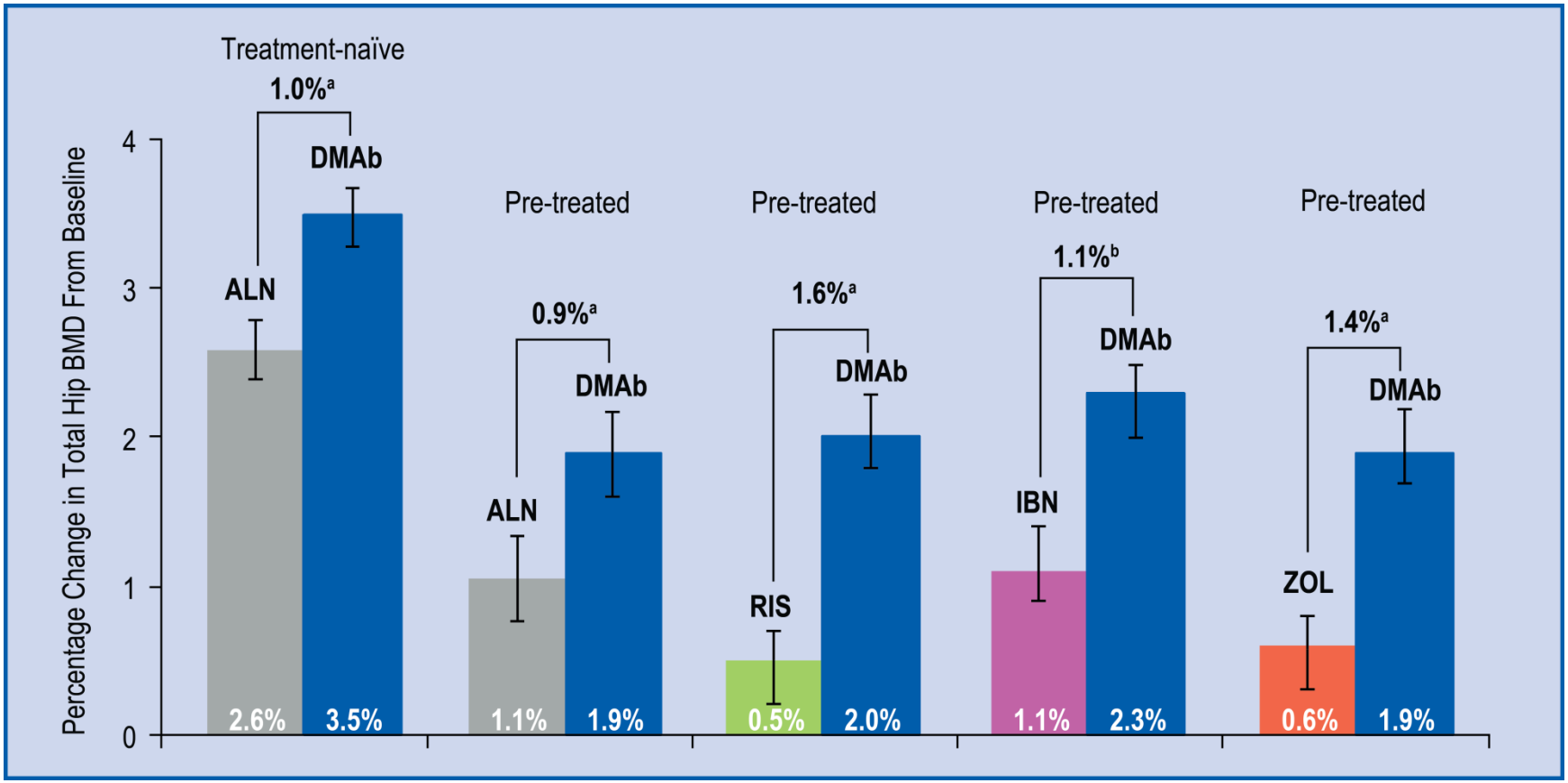
Change in Lumbar Spine and Total Hip BMD Through 10 Years With Denosumab Treatment

FREEDOM and the Open-Label FREEDOM Extension



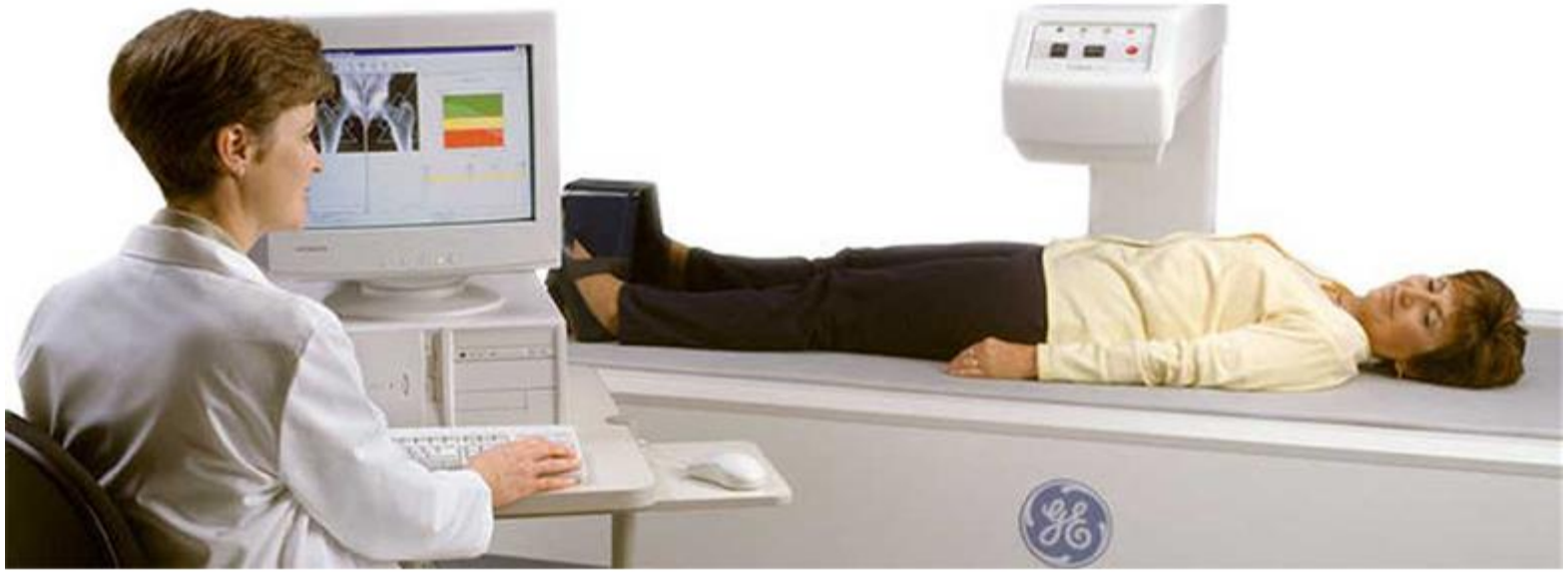
[a]p<0.05 compared with FREEDOM baseline. p<0.05 compared with FREEDOM and extension baselines.

Results: Figure 5. Percentage Change from Baseline in Total Hip BMD at Month 12 in Head-to-Head Studies of DMAb vs Bisphosphonates[1-3,5]



Data are least-squares means and 95% confidence intervals. [a]$p < 0.0001$; [b]$p < 0.001$.
ALN, alendronate; BMD, bone mineral density; DMAb, denosumab; IBN, ibandronate; RIS, risedronate; ZOL, zoledronic acid.

Μεγαλύτερη αύξηση της οστικής πυκνότητας σε σχέση με τα διφωσφονικά

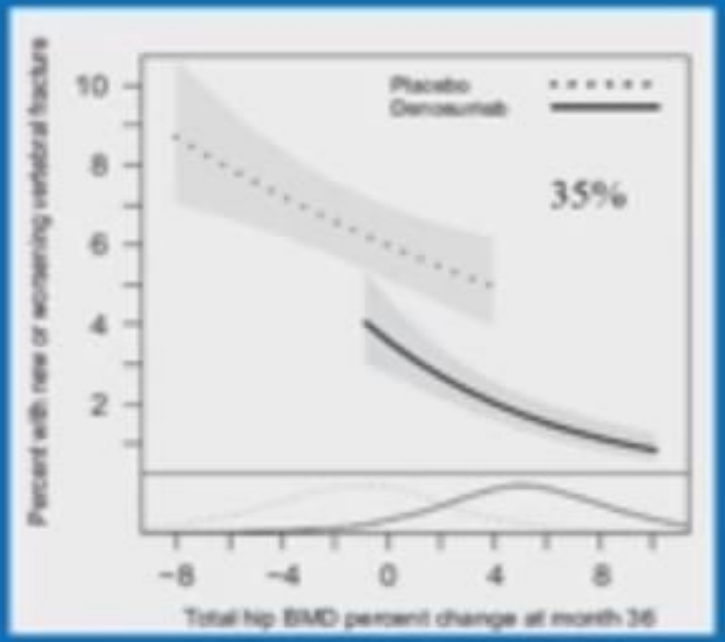


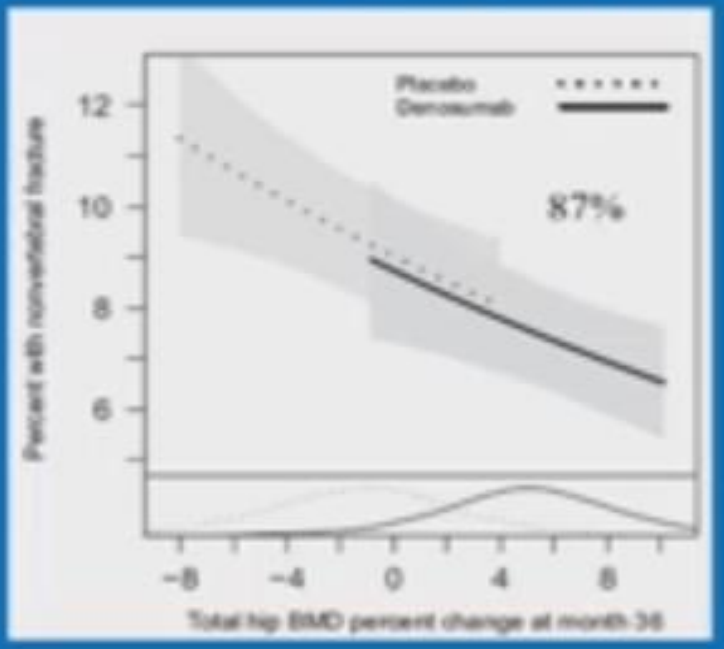
CLINICAL TRIALS

JBMR

Relationship Between Bone Mineral Density Changes With Denosumab Treatment and Risk Reduction for Vertebral and Nonvertebral Fractures

JBMR 2012; 27:687–693





ORIGINAL ARTICLE

JBMR®

Journal of Bone and Mineral Research, Vol. 34, No. 6, 2019, p. 1033–1040

Relationship Between Bone Mineral Density *T*-Score and Nonvertebral Fracture Risk Over 10 Years of Denosumab Treatment

S Ferrari,[1]* C Libanati,[2] Celia Jow Fang Lin,[3] JP Brown,[4] F Cosman,[5] E Czerwiński,[6] LH de Gregório,[7] J Malouf-Sierra,[8] J-Y Reginster,[9] A Wang,[3] RB Wagman,[3] and EM Lewiecki[10]

ΒΕΛΤΙΣΤΗ ΑΝΑΜΕΝΟΜΕΝΗ ΕΛΑΤΤΩΣΗ ΚΙΝΔΥΝΟΥ ΜΗ ΣΠΟΝΔΥΛΙΚΟΥ ΚΑΤΑΓΜΑΤΟΣ ΜΕ ΥΨΗΛΟΤΕΡΗ ΤΙΜΗ T-score ΟΛΙΚΟΥ ΙΣΧΙΟΥ (ΚΑΤΩΦΛΙ:-1,5)

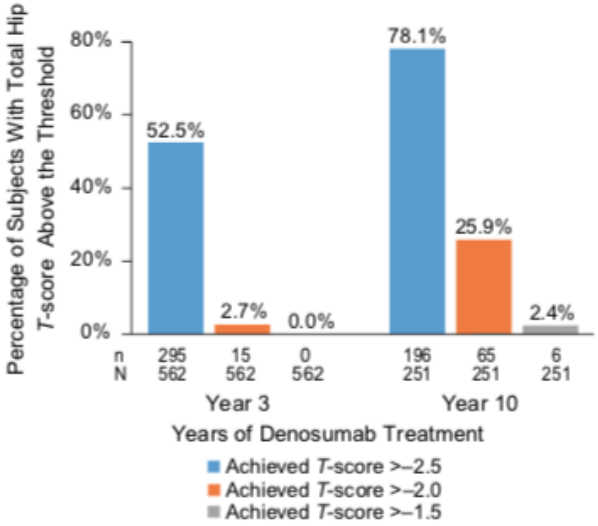
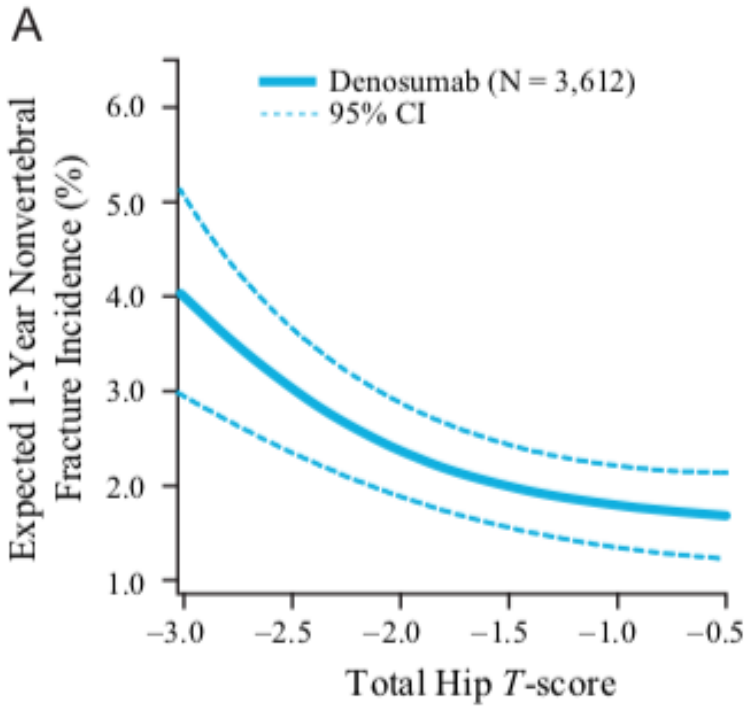


Fig. 3. Percentage of subjects with a total hip *T*-score ≤ −2.5 at FREEDOM baseline attaining *T*-scores of > −2.5, > −2.0, and > −1.5 after 3 and 10 years of denosumab treatment. *N* = number of subjects randomized to denosumab in the FREEDOM study and enrolled in the Extension who had a *T*-score of ≤ −2.5 at the total hip at FREEDOM baseline and an observed *T*-score at the time point of interest; *n* = number of subjects with a total hip *T*-score above threshold; BL = baseline



DENOSUMAB

Πολύ καλά δεδομένα αποτελεσματικότητας στη μείωση των καταγμάτων

Μείωση σπονδυλικών καταγμάτων 68%

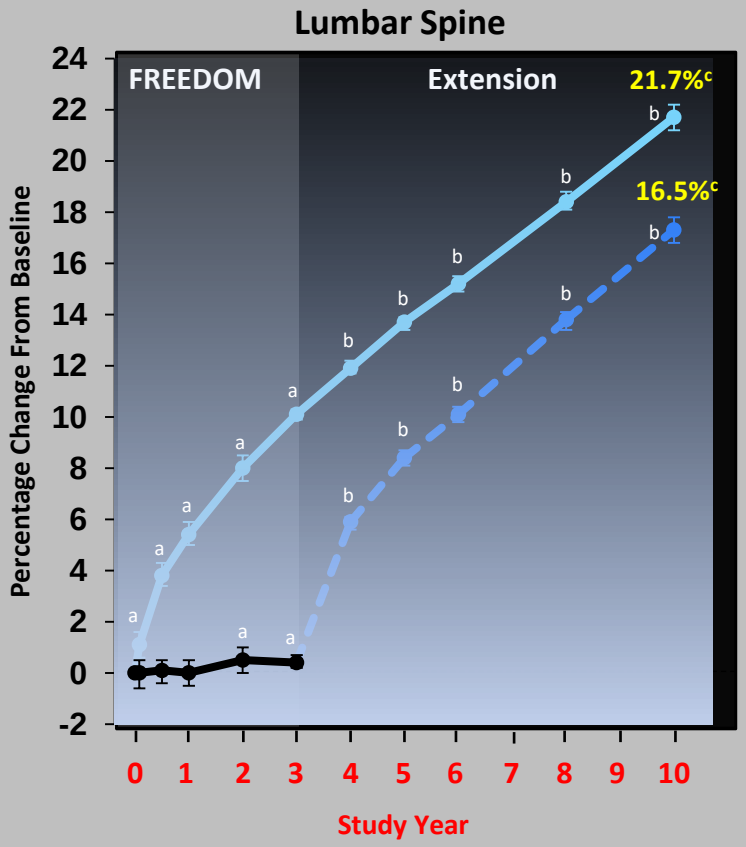
Μείωση καταγμάτων ισχίου 40%

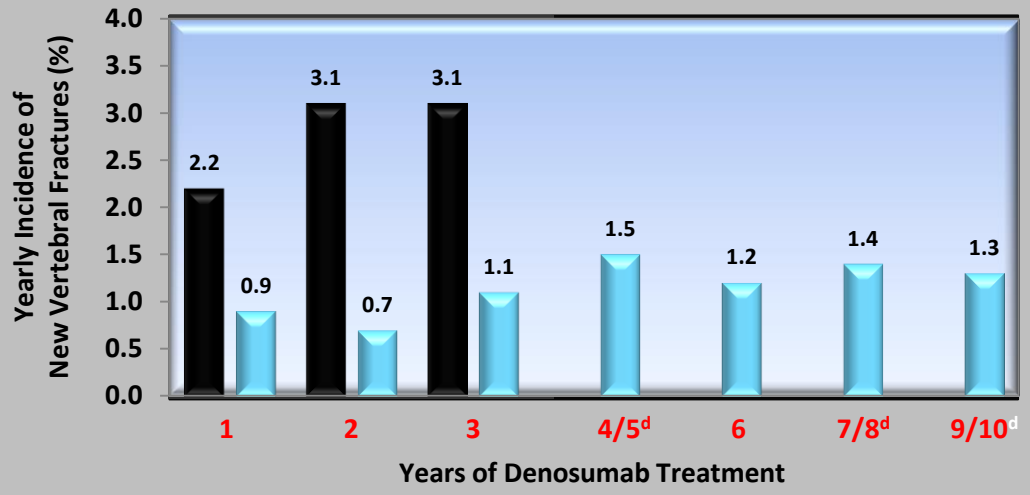
Μείωση μη σπονδυλικών καταγμάτων 20%

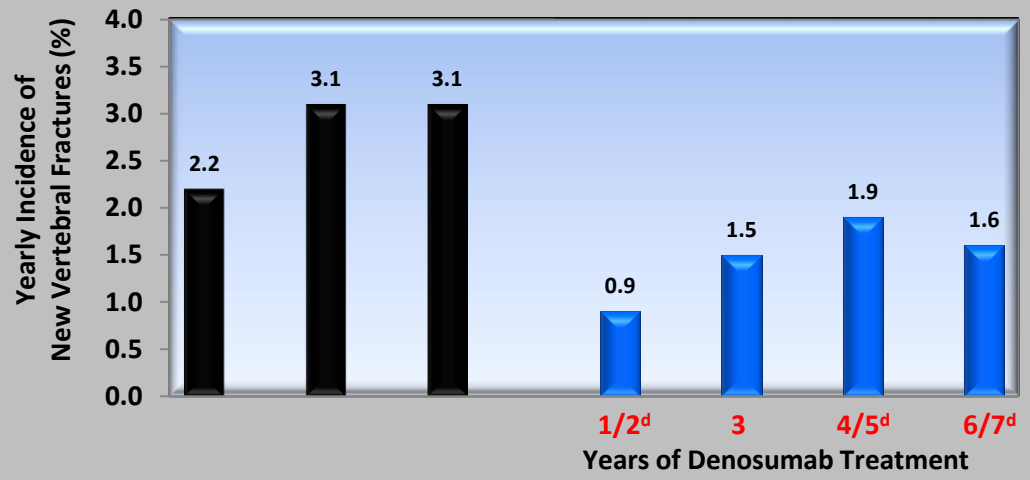
Μείωση νέων σπονδυλικών καταγμάτων 69%

Η ΜΑΚΡΟΧΡΟΝΙΑ ΘΕΡΑΠΕΙΑ ΜΕ DENOSUMAB - 10 ΕΤΗ- ΑΥΞΑΝΕΙ ΤΗΝ BMD ΤΗΣ ΣΣ ΚΑΙ ΜΕΙΩΝΕΙ ΤΗ ΣΥΧΝΟΤΗΤΑ ΕΜΦΑΝΙΣΗΣ ΝΕΩΝ ΣΠΟΝΔΥΛΙΚΩΝ ΚΑΤΑΓΜΑΤΩΝ

Placebo Long-term Denosumab Cross-over Denosumab







BMD data are LS means and 95% confidence intervals. [a]*P* < 0.05 vs FREEDOM baseline. [b]*P* < 0.05 vs FREEDOM and Extension baselines. [c]Percentage change while on denosumab treatment. [d]Annualized incidence: (2-year incidence) / 2. Lateral radiographs (lumbar and thoracic) were not obtained at years 4, 7, and 9 (years 1, 4, and 6 of the Extension).

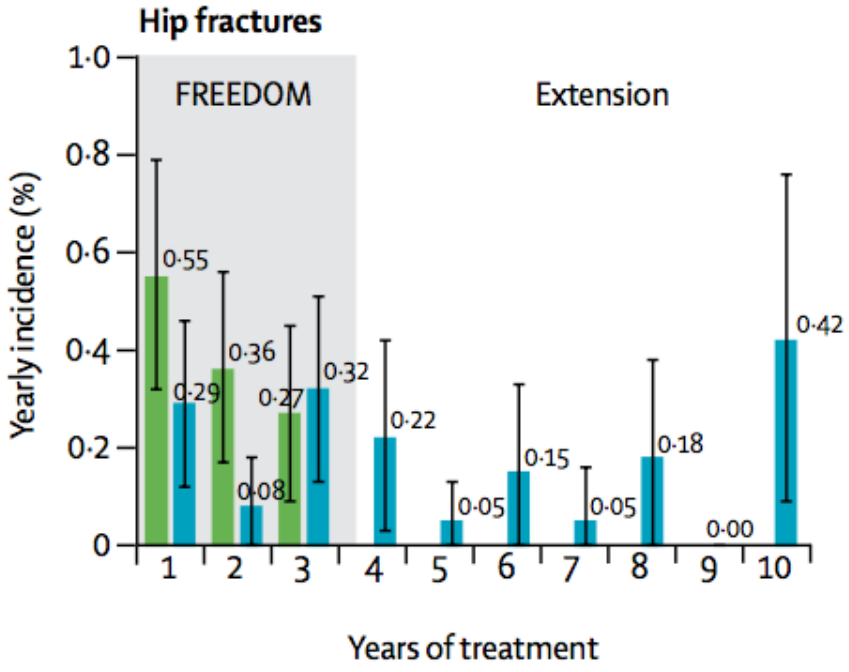
10 years of denosumab treatment in postmenopausal women with osteoporosis: results from the phase 3 randomised FREEDOM trial and open-label extension

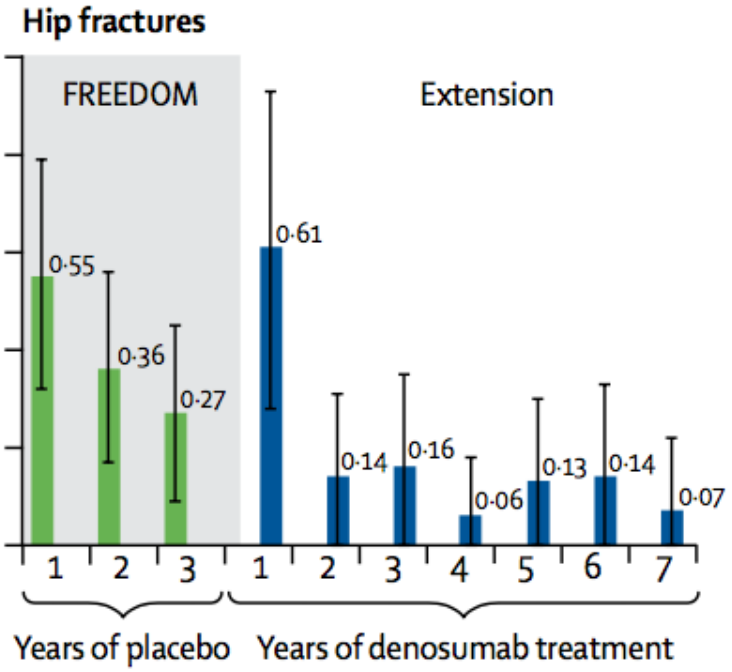
Henry G Bone, Rachel B Wagman, Maria L Brandi, Jacques P Brown, Roland Chapurlat, Steven R Cummings, Edward Czerwiński, Astrid Fahrleitner-Pammer, David L Kendler, Kurt Lippuner, Jean-Yves Reginster, Christian Roux, Jorge Malouf, Michelle N Bradley, Nadia S Daizadeh, Andrea Wang, Paula Dakin, Nicola Pannacciulli, David W Dempster, Socrates Papapoulos

Summary

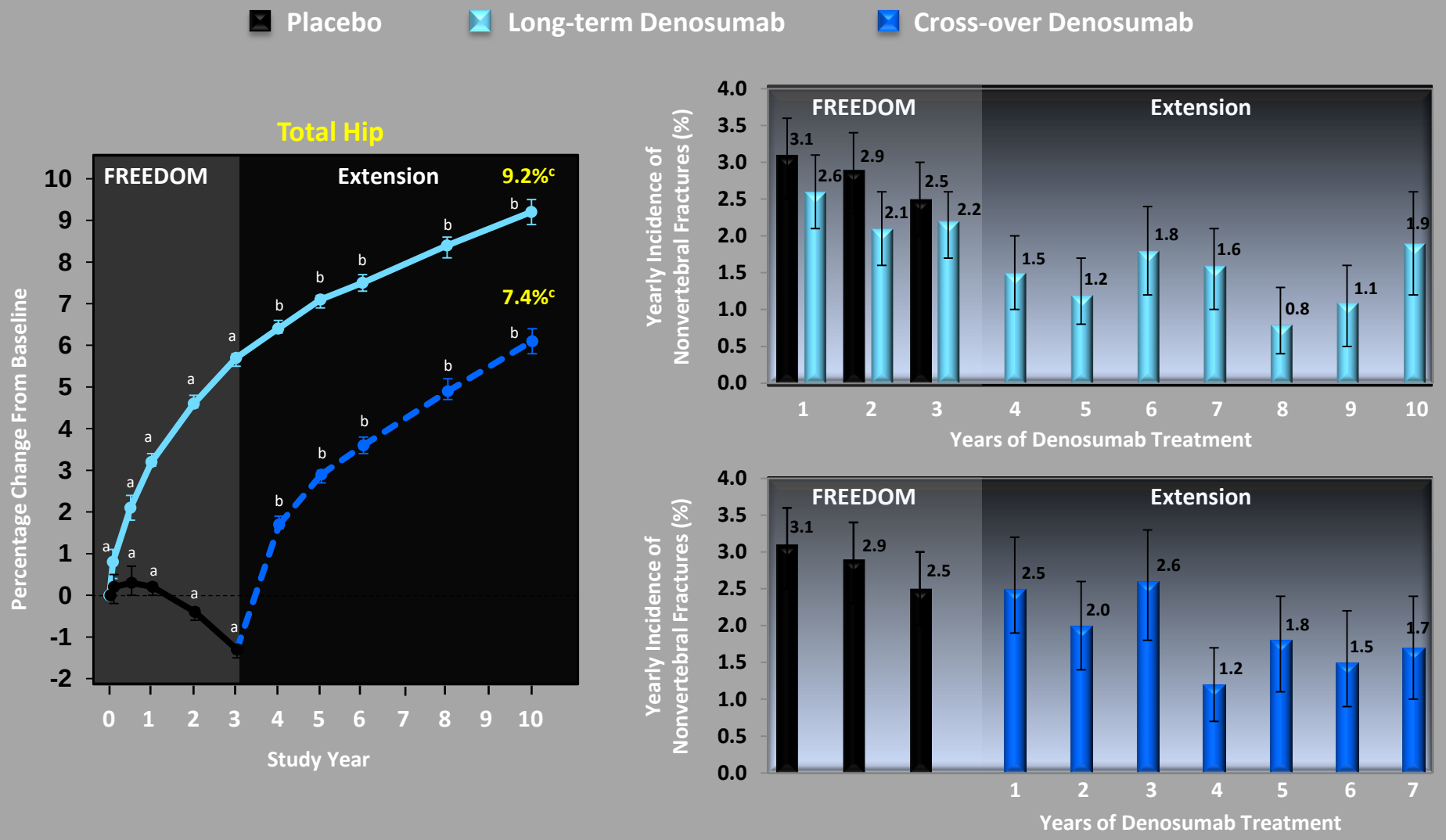
Background Long-term safety and efficacy of osteoporosis treatment are important because of the chronic nature of the disease. We aimed to assess the long-term safety and efficacy of denosumab, which is widely used for the treatment of postmenopausal women with osteoporosis.

Lancet Diabetes Endocrinol 2017
Published Online
May 22, 2017





Η ΜΑΚΡΟΧΡΟΝΙΑ ΘΕΡΑΠΕΙΑ ΜΕ DENOSUMAB - 10 ΕΤΗ -ΑΥΞΑΝΕΙ ΣΥΝΕΧΩΣ ΚΑΙ ΧΩΡΙΣ PLATEAU ΤΗΝ BMD ΤΟΥ ΟΛΙΚΟΥ ΙΣΧΙΟΥ ΚΑΙ ΟΔΗΓΕΙ ΣΕ ΜΕΙΩΜΕΝΗ ΣΥΧΝΟΤΗΤΑ ΜΗ ΣΠΟΝΔΥΛΙΚΩΝ ΚΑΤΑΓΜΑΤΩΝ



BMD data are LS means and 95% confidence intervals. [a]*P* < 0.05 vs FREEDOM baseline. [b]*P* < 0.05 vs FREEDOM and Extension baselines. [c]Percentage change while on denosumab treatment. Percentages for nonvertebral fractures are Kaplan-Meier estimates.

Effects of Long-Term Denosumab on Bone Histomorphometry and Mineralization in Women With Postmenopausal Osteoporosis

David W. Dempster,[1,2] Jacques P. Brown,[3] Astrid Fahrleitner-Pammer,[4] David Kendler,[5] Sebastien Rizzo,[6] Ivo Valter,[7] Rachel B. Wagman,[8] Xiang Yin,[8] Susan V. Yue,[8] and Georges Boivin[6]

J Clin Endocrinol Metab, July 2018, 103(7):2498–2509

Table 1. Bone Histology and Histopathology

	FREEDOM		Extension	
	Placebo Year 2 and/or 3	Denosumab Year 2 and/or 3	Denosumab Year 5	Denosumab Year 10
	N = 45[a]	N = 47[a]	N = 28[b]	N = 22[b]
Evaluable biopsies[c]	62	53	28	22
Normal lamellar bone, n (%)	62 (100)	53 (100)	28 (100)	22 (100)
Normal mineralization, n (%)	62 (100)	53 (100)	28 (100)	22 (100)
Present osteoid, n (%)	62 (100)	48 (91)	23 (82)	18 (82)
No visible osteoid, n (%)	0 (0)	5 (9.4)	5 (17.9)	4 (18.2)
Osteomalacia, n	0	0	0	0
Marrow fibrosis, n	0	0	0	0
Woven bone, n	0	0	0	0

[a]Number of subjects who enrolled in the FREEDOM bone biopsy substudy, received ≥1 dose of investigational product during FREEDOM, and had an evaluable biopsy at year 2 or year 3.

[b]Number of subjects who enrolled in the extension bone biopsy substudy, received ≥1 dose of investigational product during the extension, and had an evaluable biopsy at the time point(s) of interest.

[c]Number of evaluable biopsies, which serves as the denominator for percentage values in parentheses; some subjects had ≥1 evaluable biopsy during the FREEDOM trial.

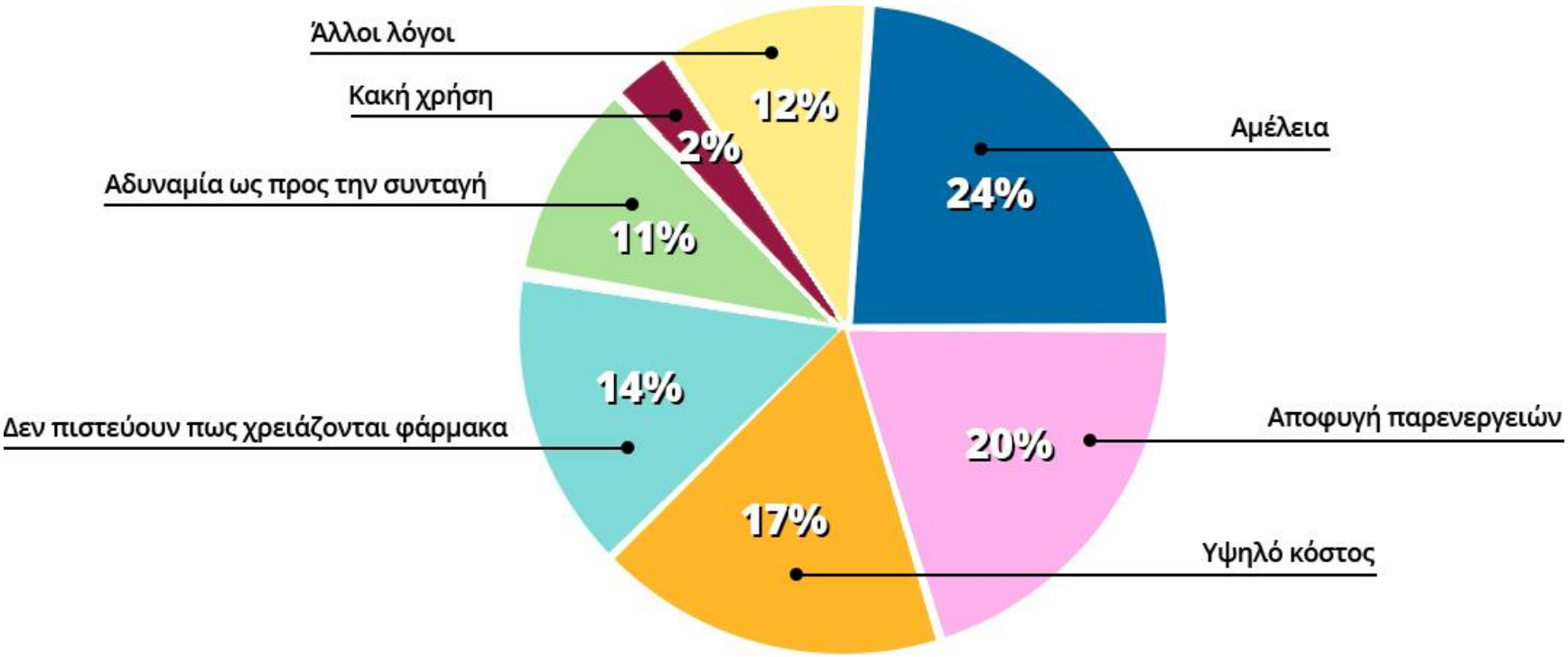
Ασφάλεια και ανοχή

Yearly Exposure-adjusted Participant Incidence of Adverse Events per 100 Participant-years of Follow-up
FREEDOM and the Open-Label FREEDOM Extension

	Placebo			Long-term and crossover denosumab groups combined									
Years of treatment	1	2	3	1	2	3	4	5	6	7	8	9	10
N =	3,883	3,687	3,454	6085	5787	5452	4099	3890	3582	3261	1743	1585	1451
All adverse events	189.5	156.3	132.8	165.3	137.8	124.6	129.9	110.9	110.0	108.4	107.6	109.5	95.9
Infections	38.6	33.9	31.7	35.1	30.3	29.5	29.1	26.0	27.2	26.5	27.0	27.0	23.0
Malignancies	1.8	1.6	1.5	1.9	1.5	2.2	2.3	2.4	2.2	2.7	1.7	2.6	1.6
Eczema	0.8	0.5	0.6	1.4	1.1	1.0	1.1	1.2	0.9	0.7	0.8	0.9	1.3
Hypocalcemia	<0.1	0	<0.1	<0.1	<0.1	0	<0.1	0.1	0	<0.1	<0.1	0	0.1
Pancreatitis	<0.1	<0.1	0	<0.1	<0.1	<0.1	0	<0.1	0.1	<0.1	0.1	<0.1	0
Serious adverse events	11.7	11.9	10.8	12.0	11.5	12.3	11.5	12.9	12.6	14.4	11.5	13.1	12.3
Infections	1.1	1.4	1.4	1.5	1.6	1.4	1.4	1.3	1.9	2.3	1.2	1.5	2.6
Cellulitis or erysipelas	0	0	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	0.2	<0.1	0.1
Atypical femoral fracture	0	0	0	0	0	<0.1	0	0	0	<0.1	0	0	0
Osteonecrosis of the jaw	0	0	0	0	<0.1	0	<0.1	0	0.2	<0.1	0	<0.1	<0.1
Fatal adverse events	0.8	0.8	1.0	0.7	0.6	0.7	0.5	0.8	0.9	1.5	0.7	1.0	0.9

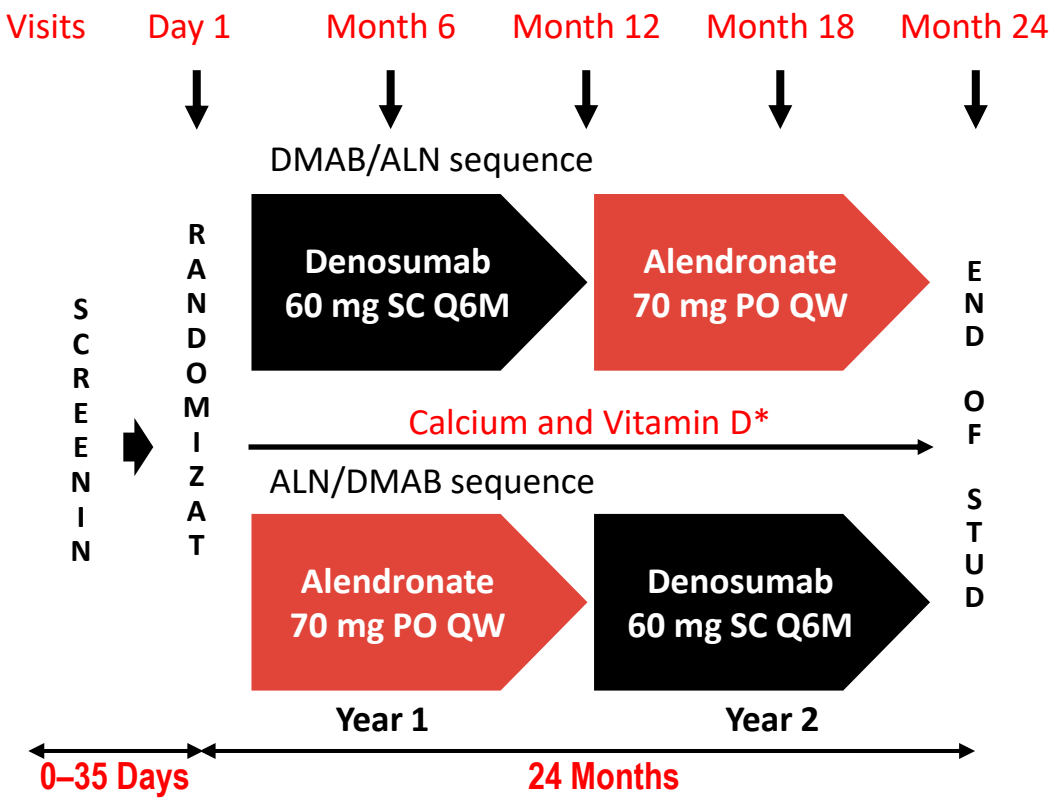
Analyses were based on the original randomized treatments in FREEDOM. All adverse and serious adverse events were coded using MedDRA v13.0.
N = number of women who received ≥1 dose of investigational product in FREEDOM or the Extension. All subjects treated with denosumab during FREEDOM are included in the first 3 years. Years 1-7 of denosumab exposure include the first 7 years for the long-term group, and the 7 years of the active treatment extension for the cross-over group. Years 8-10 are the last 3 years for the long-term group only.

Συμμόρφωση – ικανοποίηση ασθενών



Study Design

DAPS Study



Study population

- Postmenopausal women ≥ 55 years
- BMD T-scores ≤ –2.0 to ≥ –4.0 at the spine, hip, or femoral neck

Objectives

- To evaluate adherence (including compliance and persistence)
- To also evaluate patient treatment beliefs, preference, satisfaction, and bother

Primary endpoint

- Adherence during the first year

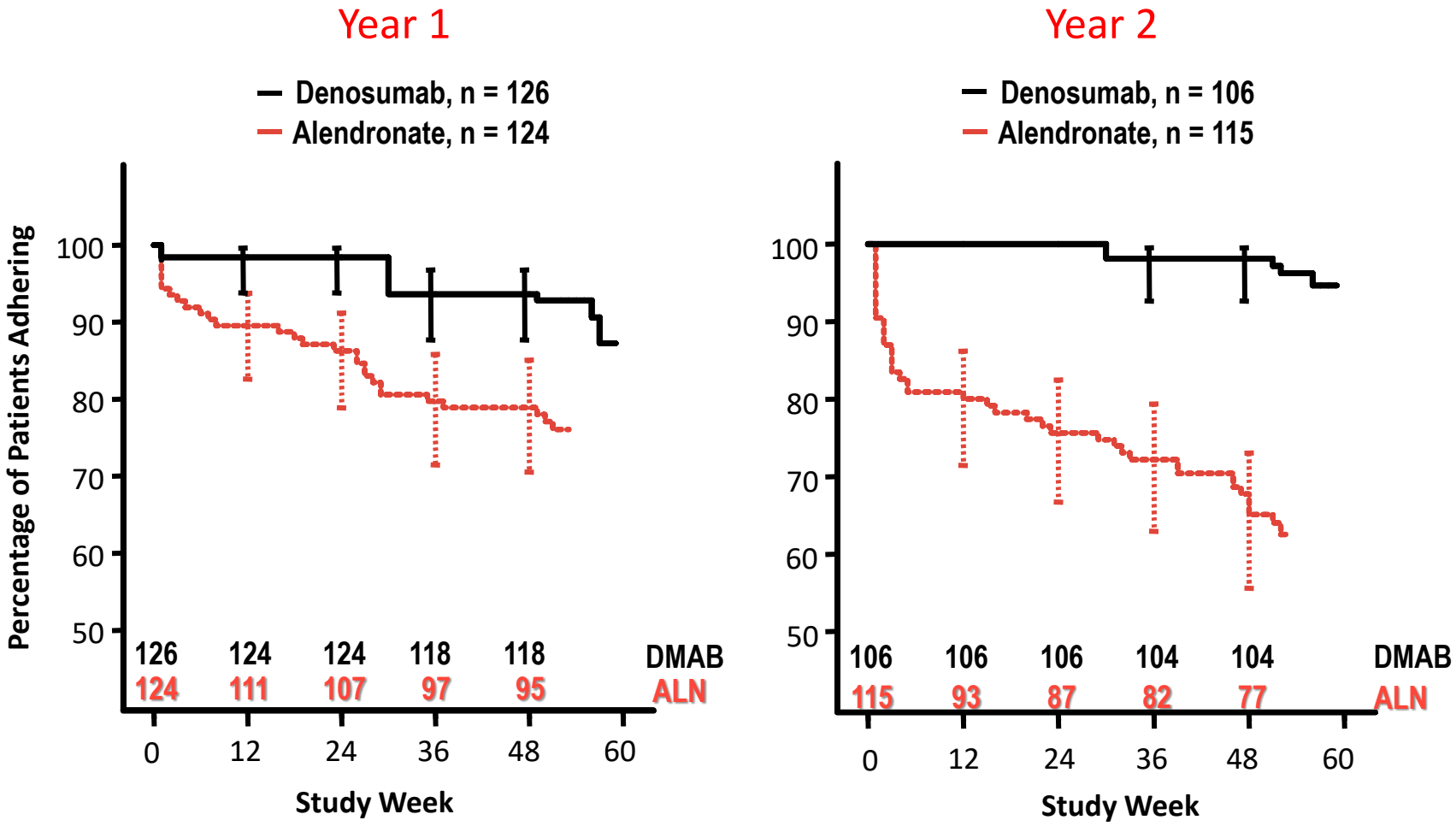
- **Open-label, randomized, cross-over study**

All subjects were instructed to take daily supplements of ≥ 1,000 mg calcium and ≥ 400 IU vitamin D.
DMAB = denosumab; ALN = alendronate; SC = subcutaneous; Q6M = once every 6 months; PO = by mouth ; QW = once a week; BMD = bone mineral density

Freemantle N, et al. *Osteoporos Int*. doi 10.1007/s00198-011-1780-1.

Time to Treatment Non-adherence

DAPS Study



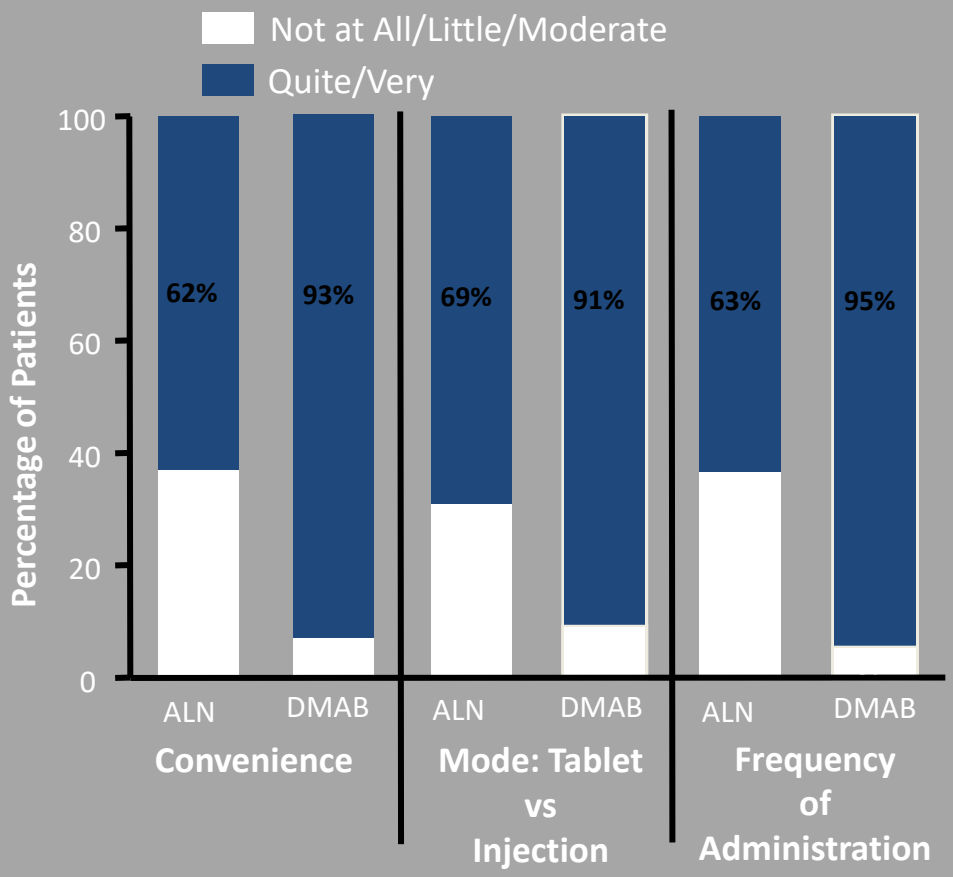
For each treatment group, time points with > 95% cumulated subjects were excluded.

Freemantle N, et al. *Osteoporos Int*. doi 10.1007/s00198-011-1780-1.

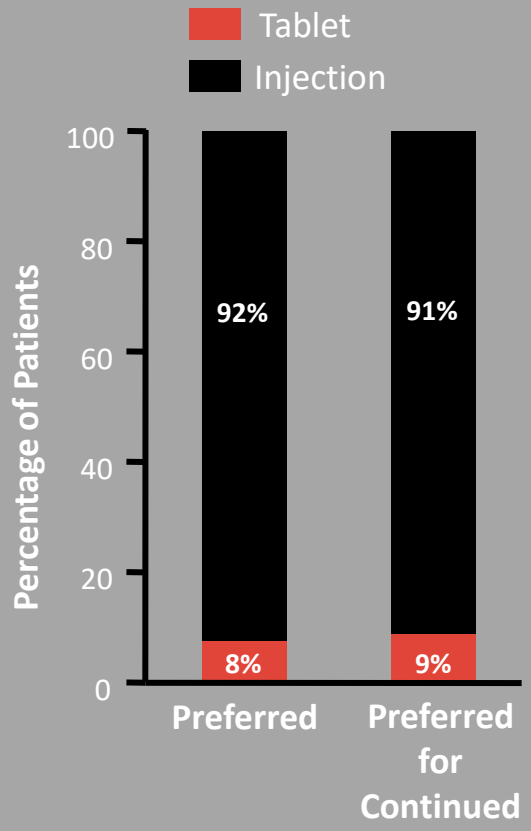
Patient-Reported Satisfaction and Preference

DAPS Study

Satisfaction



Preference



Preference was assessed only in Year 2.

Freemantle N, et al. *Osteoporos Int*. doi 10.1007/s00198-011-1780-1.

DENOSUMAB

Εύκολος τρόπος λήψης

Ικανοποίηση και συμμόρφωση ασθενών

ΣΥΝΟΣΗΡΟΤΗΤΕΣ

Co-morbidity relationship exists between two diseases whenever they affect the same individual substantially more than chance alone

Hidalgo et al PLoS Comput Biol 5(4):2009

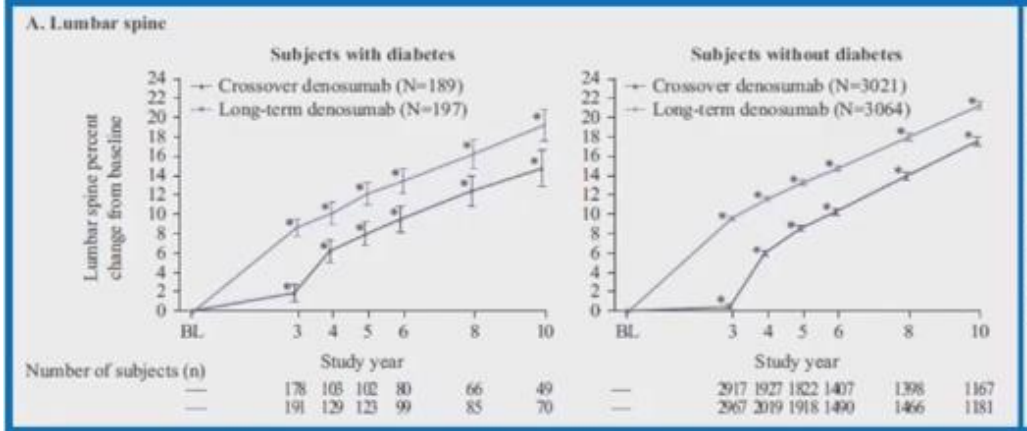
ΣΔ - Παράγοντας κινδύνου για κάταγμα-

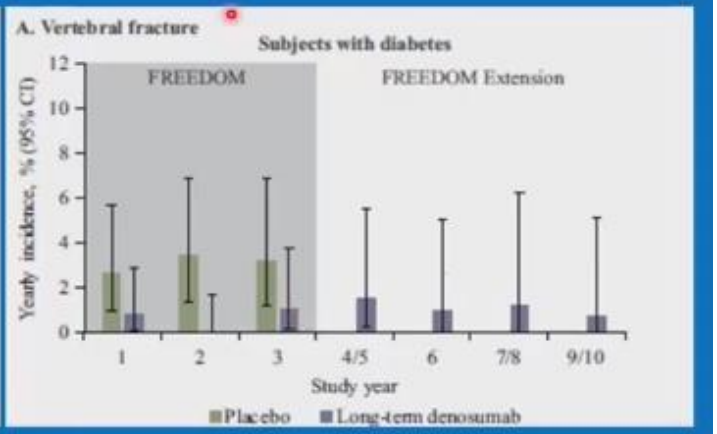
Ιδια εικόνα όσον αφορά βελτίωση οστικής πυκνότητας και μείωση καταγμάτων

Denosumab in postmenopausal women with osteoporosis and diabetes: Subgroup analysis of FREEDOM and FREEDOM extension

Serge Ferrari[a,*], Richard Eastell[b], Nicola Napoli[c,d], Ann Schwartz[e], Lorenz C. Hofbauer[f], Arkadi Chines[g], Andrea Wang[h], Nico Pannacciulli[g,1], Steven R. Cummings[e]

Bone 134 (2020) 115268





J Bone Miner Res Jan 2021

Η ΜΕΤΑΝΑΛΥΣΗ ΔΕΝ ΕΔΕΙΞΕ ΑΥΞΗΣΗ ΚΑΡΔΙΑΓΓΕΙΑΚΩΝ ΣΥΜΒΑΜΑΤΩΝ ΣΤΗΝ ΟΜΑΔΑ ΤΟΥ DENOSUMAB ΣΥΓΚΡΙΤΙΚΑ ΜΕ ΤΗΝ ΟΜΑΔΑ ΕΛΕΓΧΟΥ

ORIGINAL ARTICLE

JBMR®

Cardiovascular Safety of Denosumab Across Multiple Indications: A Systematic Review and Meta-Analysis of Randomized Trials

Alexander H Seeto,[1] Bo Abrahamsen,[2,3,4] Peter R Ebeling,[5,6†] and Alexander J Rodriguez[2,5,7†]

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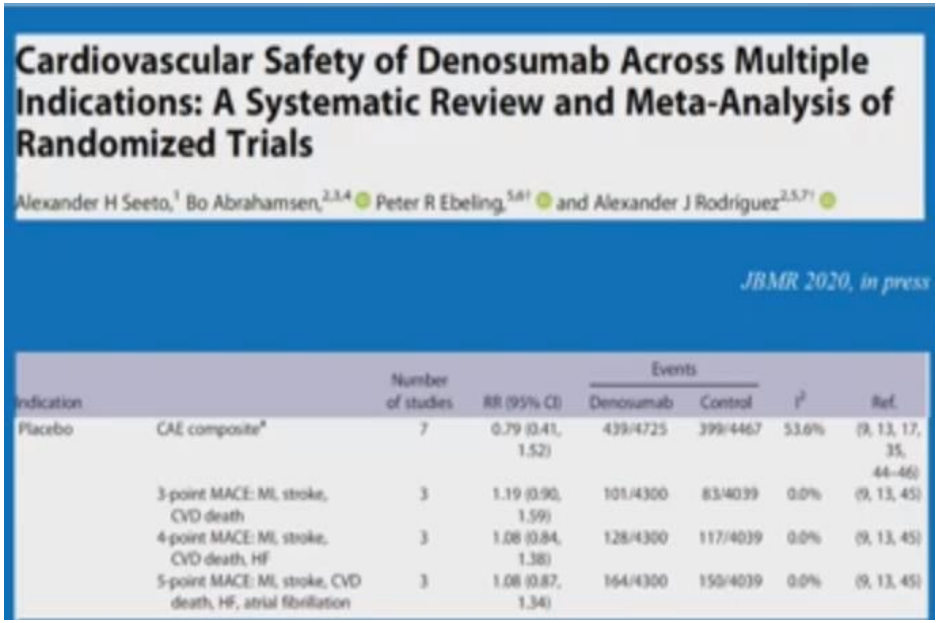
[2]OPEN-Odense Patient Data Explorative Network, Institute of Clinical Research, University of Southern Denmark, Odense, Denmark
[3]Musculoskeletal Pharmaco- and Device Epidemiology, Centre for Statistics in Medicine, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, Oxford, UK
[4]Department of Medicine, HolbaekHospital, Holbaek, Denmark
[5]Bone and Muscle Health Research Group, Department of Medicine, School of Clinical Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University, Monash Medical Centre, Clayton, Australia
[6]Australian Institute for Musculoskeletal Science, St Albans, Australia
[7]Disorders of Mineralisation Research Group, School of Medical and Health Sciences, Edith Cowan University, Joondalup, Australia

ABSTRACT

The cardiovascular safety of denosumab has not yet been evaluated in a systematic review. This systematic review and meta-analysis sought to quantify the number of randomized controlled trials (RCTs) of denosumab (against comparators) reporting cardiovascular adverse events (CAEs) and examine the balance of CAEs between treatment arms. MEDLINE, Embase, and clinicaltrials.gov were searched from inception to October 26, 2019, for RCTs of denosumab versus comparators for any indication. Included trials were randomized, enrolled ≥100 participants, and reported bone-related outcomes. Primary outcome for analysis was all CAEs, a composite endpoint representing summation of all CAEs as reported by included trials. Secondary outcomes included major adverse cardiovascular events (MACE). Data were pooled using a fixed effects model to determine relative risk (RR) and 95% confidence interval (95% CI). Risk of bias was assessed using the Cochrane risk-of-bias tool. Of 554 records screened, 49 were included, while 36 reported CAEs. Twenty-seven included trials (12 eligible for meta-analysis) were conducted in 13,202 postmenopausal women. Compared with bisphosphonates, there was a 46% (95% CI 1.05 to 2.02) increase in CAEs (85/2136 events in denosumab-treated versus 58/2131 events in bisphosphonate-treated: seven trials). There was a similar imbalance in a five-point (stroke, myocardial infarction, cardiovascular death, heart failure, atrial fibrillation) MACE endpoint (28/2053 versus 12/2050; RR = 2.33 [1.19 to 4.56]). Compared with placebo-treated women, there was no imbalance in total CAEs (439/4725 events in denosumab versus 399/4467 in placebo: RR = 0.79 [0.41 to 1.52]; seven trials). No imbalance in total AEs (versus bisphosphonates: 0.98 [0.92 to 1.04]; versus placebo: 0.99 [0.98 to 1.01]) occurred. Other indications showed no statistically significant results. The excess CAEs in postmenopausal women treated with denosumab compared with bisphosphonates, but not placebo, indirectly supports claims that bisphosphonates may suppress CAEs. Future trials should use standardized CAE reporting to better describe cardiovascular effects of bone active medications. (PROSPERO: CRD42019135414.) © 2020 American Society for Bone and Mineral Research (ASBMR).



Cardiovascular Safety of Denosumab Across Multiple Indications: A Systematic Review and Meta-Analysis of Randomized Trials

Alexander H Seeto,[1] Bo Abrahamsen,[2,3,4] Peter R Ebeling,[5,6†] and Alexander J Rodriguez[2,5,7†]

JBMR 2020, in press

Indication		Number of studies	RR (95% CI)	Events: Denosumab	Events: Control	I^2	Ref.
Placebo	CAE composite[a]	7	0.79 (0.41, 1.52)	439/4725	399/4467	53.6%	(9, 13, 17, 35, 44–46)
	3-point MACE: MI, stroke, CVD death	3	1.19 (0.90, 1.59)	101/4300	83/4039	0.0%	(9, 13, 45)
	4-point MACE: MI, stroke, CVD death, HF	3	1.08 (0.84, 1.38)	128/4300	117/4039	0.0%	(9, 13, 45)
	5-point MACE: MI, stroke, CVD death, HF, atrial fibrillation	3	1.08 (0.87, 1.34)	164/4300	150/4039	0.0%	(9, 13, 45)

PERSPECTIVE

JBMR®

Osteoporosis Management in the Era of COVID-19

Elaine W Yu,[1] Elena Tsourdi,[2,3] Bart L Clarke,[4] Douglas C Bauer,[5,6] and Matthew T Drake[4,7]

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[2]Department of Medicine III, Universitätsklinikum Dresden, Dresden, Germany
[3]Center for Healthy Aging, Universitätsklinikum Dresden, Dresden, Germany
[4]Division of Endocrinology, Diabetes, Metabolism, and Nutrition, Mayo Clinic, Rochester, MN, USA
[5]Department of Medicine, University of California, San Francisco, San Francisco, CA, USA
[6]Department of Epidemiology and Biostatistics, University of California, San Francisco, San Francisco, CA, USA
[7]Robert and Arlene Kogod Center on Aging, Mayo Clinic, Rochester, MN, USA

ABSTRACT

Osteoporosis is a chronic condition that reflects reduced bone strength and an associated increased risk for fracture. As a chronic condition, osteoporosis generally requires sustained medical intervention(s) to limit the risks for additional bone loss, compromise of skeletal integrity, and fracture occurrence. Further complicating this issue is the fact that the abrupt cessation of some therapies can be associated with an increased risk for harm. It is in this context that the COVID-19 pandemic has brought unprecedented disruption to the provision of health care globally, including near universal requirements for social distancing. In this Perspective, we provide evidence, where available, regarding the general care of patients with osteoporosis in the COVID-19 era and provide clinical recommendations based primarily on expert opinion when data are absent. Particular emphasis is placed on the transition from parenteral osteoporosis therapies. It is hoped that these recommendations can be used to safely guide care for patients with osteoporosis until a return to routine clinical care standards is available.

KEY WORDS: ABALOPARATIDE; BISPHOSPHONAT; COVID-19; DENOSUMAB; FRACTURES; OSTEOPOROSIS; ROMOSOZUMAB; TERIPARATIDE

Are women with osteoporosis treated with denosumab at risk of severe COVID-19?

Anna Maria Formenti[1] · Erika Pedone[1] · Luigi di Filippo[1] · Fabio Massimo Ulivieri[1] · Andrea Giustina[1]

Our preliminary data suggest that women older than 50 years under pharmacologic treatment for postmenopausal or aromatase inhibitor-induced osteoporosis do not seem to be at high risk of symptomatic/severe COVID-19. Moreover,

Endocrine
https://doi.org/10.1007/s12020-020-02500-4

vaccine. Although denosumab treatment is associated with an increased risk of skin and soft tissue infections and injection site reactions,[38,39] the concomitant use of denosumab in patients with rheumatoid arthritis receiving treatment with biologic agents,[40–42] or in patients with solid-organ malignancies receiving chemotherapy,[43,44] was not associated with an increased risk for systemic infection. A recent meta-analysis confirmed that denosumab treatment was not associated with an increased risk for respiratory infections in osteoporosis patients.[45] It should be noted, however, that denosumab can cause dermatologic reactions, including dermatitis and eczema.[38,39] Thus, we suggest an interval of 4 to 7 days between treatment with denosumab and COVID-19 vaccination to allow for the potential occurrence of injection site reactions. Moreover, the injection of denosumab should be administered in the contralateral arm or at an alternative site (abdomen or upper thigh).

PERSPECTIVE

JBMR®

Vaccination for Coronavirus Disease 2019 (COVID-19) and Relationship to Osteoporosis Care: Current Evidence and Suggested Approaches

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[1]Department of Medicine III, Universitätsklinikum Dresden, Dresden, Germany
[2]Center for Healthy Aging, Universitätsklinikum Dresden, Dresden, Germany
[3]Endocrine Unit, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA
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[5]Division of Endocrinology, Diabetes, Metabolism and Nutrition, Mayo Clinic, Rochester, MN, USA
[6]Robert and Arlene Kogod Center on Aging, Mayo Clinic, Rochester, MN, USA

ABSTRACT

The development of coronavirus disease 2019 (COVID-19) vaccines has proceeded at an unprecedented pace, with numerous trials conducted simultaneously across the world as a result of massive technological and financial resource expenditures. With multiple vaccines having now received regulatory approval, public health efforts to promote widespread vaccine dissemination are currently underway. There has been particular emphasis placed on vaccination of older populations, the age group in which COVID-19 infection has been most lethal. However, such widespread vaccination approaches have necessarily raised important questions related to potential interactions with underlying diseases and concomitant treatments among persons to be vaccinated. Osteoporosis is a chronic condition marked by reduced bone strength and an associated increased risk for fracture that generally requires sustained medical intervention(s). Osteoporosis is neither associated with a higher risk of COVID-19 infection nor by more pronounced disease severity following infection, such that individuals with osteoporosis need not be more highly prioritized for COVID-19 vaccination. Osteoporosis therapies do not interfere with the efficacy or side effect profiles of COVID-19 vaccines and should not be stopped or indefinitely delayed because of vaccination. Depending on the specific drug profile within an anti-osteoporosis medication category, minor adjustments to the timing of drug administration may be considered with respect to the patient's COVID-19 vaccination schedule. Herein we provide practical recommendations for the care of patients requiring treatment for osteoporosis in the setting of COVID-19 vaccination. © 2021 American Society for Bone and Mineral Research (ASBMR).

ΣΑΣ ΕΥΧΑΡΙΣΤΩ ΓΙΑ ΤΗΝ ΠΡΟΣΟΧΗ ΣΑΣ