

Title: Bone damage after chemotherapy for lymphoma: a real-world experience

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		N° (%)	Mean±DS
Sex	Male	18 (62,1)	
	Female	11 (37,9)	
Age		29	61,4 ± 16,7
BMI		28	27,1 ± 4,3
Vitamin D (ng/ml)	Normal (31 - 100)	5 (17,2)	21,6 ± 8,8
	Insufficiency (11 - 30)	22 (75,9)	
	Deficiency (≤ 10)	2 (6,9)	
PTH (pg/ml)	High (> 70)	6 (20,7)	43,5 ± 26,8
	Normal (12 - 70)	20 (69,0)	
	Low (< 12)	3 (10,3)	
Diagnosis	Hodgikin Lymphoma	4 (13,8)	
	Non-Hodgikin Lymphoma	25 (86,2)	
Comorbidities	Yes, ≥ 3 comorbidities	12	2,1 ± 0,8
	Yes, 1 or 2 comorbidities	10	
	No	7	
BMD Femural (g/cm ²)		27	0,9 ± 0,1
T-Score Femural (n=27)	Normal	15 (55,6)	-0,8 ± 1,2
	Osteopenia	10 (37,0)	
	Osteoporosis	2 (7,4)	
Z-Score Femural		27	-0,1 ± 1,1
BMD Lumbar Vertebral		28	0,9 ± 0,2
T-Score Lumbar Vertebral (n=28)	Normal	14 (50,0)	-1,0 ± 1,5
	Osteopenia	7 (25,0)	
	Osteoporosis	7 (25,0)	
Z-Score Lumbar Vertebral		28	-0,2 ± 1,4
Vertebral Fractures	No fractures	10 (34,5)	2,1 ± 1,8
	1 or 2 fractures	10 (34,5)	
	≥ 3 fractures	9 (31,0)	
SARC-F	≥ 4 (sarcopenic)	18 (62)	3.8 ± 1.9
	< 4 (non sarcopenic)	11 (38)	
Mini OQoL	Mild	11 (37,9)	54,4 ± 11,1
	Moderate	16 (55,2)	

	Severe	2 (6,9)	
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Table 1. Blood chemistry values, BMD findings by DEXA, vertebral fractures, sarcopenia assessment.

		Vitamin D		p-value	Parathormone		P-value
		Reference	Insufficiency / Deficiency		High	Reference	
		n (%)	n (%)		n (%)	n (%)	
Diagnosis	Hodgkin lymphoma	1 (25)	3 (75)	0.44	1 (25)	3 (75)	0.48
	Non-Hodgkin lymphoma	4 (16)	21 (84)		5 (20)	20 (80)	
Age	Mean $\pm$ DS	57.2 $\pm$ 18.2	62.2 $\pm$ 16.7	0.55	74.5 $\pm$ 10.3	57.9 $\pm$ 16.5	0.03
Gender	Male	5 (27.8)	13 (72.2)	0.12	4 (22.2)	14 (77.8)	0.30
	Female	1 (9.1)	10 (90.9)		1 (9.1)	10 (90.9)	
Chemo and steroid therapy	Yes	2 (12.5)	14 (87.5)	0.39	6 (37.5)	10 (62.5)	0.02
	No	3 (23.1)	10 (76.9)		0 (0)	13 (100)	
Comorbidities	Yes	4 (18.2)	18 (81.8)	0.65	6 (27.3)	16 (72.7)	0.16
	No	1 (14.3)	6 (85.7)		0 (0)	7 (100)	
Vertebral fractures	Yes	2 (10.5)	17 (89.5)	0.20	6 (31.6)	13 (68.4)	0.05
	No	3 (30)	7 (70)		0	10 (100)	
Femoral DEXA (n=27)	Normal	3 (20)	12 (80)	0.38	3 (20)	12 (80)	0.55
	Osteopenia / Osteoporosis	1 (8.3)	11 (91.7)		3 (25)	9 (75)	
Vertebral DEXA (n=28)	Normal	2 (14.3)	12 (85.7)	0.50	3 (21.4)	11 (78.6)	0.67
	Osteopenia / Osteoporosis	3 (21.4)	11 (78.6)		3 (21.4)	11 (78.6)	
Vitamin D (ng/ml)	Normal	NA	NA	-	0	5 (100)	0.28
	Insufficiency / Deficiency	NA	NA		6 (25)	18 (75)	
SARC-F (patients with 1 or 2 points)	≥ 4 (sarcopenic)	1 (5.6)	17 (94.4)	0.05	3 (16.7)	15 (83.3)	0.65
	< 4 (non sarcopenic)	4 (36.4)	7 (63.6)		3 (27.3)	8 (72.7)	
Mini-OQoL total score	10-35	1 (50,0)	1 (50,0)	0.42	2 (100,0)	0 (0,0)	0.28
	36-60	2 (12,5)	14 (87,5)		11 (68,7)	5 (31,3)	
	61-70	2 (20,0)	8 (80,0)		10 (90,9)	1 (9,1)	

Table 2. Correlation of Vitamin D and Parathormone values with socio-demographic and clinical characteristics of the patients.