

Body composition in HIV-infected patients under combined antiretroviral therapy over 5 years

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Introduction

HIV infection and combined antiretroviral therapy (cART) have been associated with lipodystrophy and changes in body composition. However, there are few studies on body composition evolution of HIV-infected patients under cART.

Aims

To evaluate the evolution of body composition in HIV-1 infected patients under cART over 5 years.

Methods

Retrospective, observational study in a cohort of HIV-infected patients on cART. Evaluation of clinical data and body composition (total fat mass, upper-limbs fat mass, lower-limbs fat mass, trunk fat mass and fat-free mass) by DXA (whole-body dual-energy X-ray absorptiometry).

Men | Women

n	162
Age [years, median (minimum; maximum)]	45 (25;77)
Duration of infection [years, median (minimum; maximum)]	7 (1;20)
Duration of cART [years, median (minimum; maximum)]	6 (0;20)
BMI [Kg/m ² , median (minimum; maximum)]	24,37 (16,16;37,89)

n	95
Age [years, median (minimum; maximum)]	44 (23;73)
Duration of infection [years, median (minimum; maximum)]	9 (1;19)
Duration of cART [years, median (minimum; maximum)]	6 (1;16)
BMI [Kg/m ² , median (minimum; maximum)]	25,33 (15,02;48,16)

	n	Baseline	n	1 year after	n	2 years after	n	3 years after	n	4 years after	n	5 years after	p
Upper-limbs fat mass [% , median (minimum; maximum)]	148	14,25 (3,7;42,4)	115	14,30 (3,8;43,6)	98	15,15 (4,0;46,0)	84	15,90 (4,3;47,4)	63	18,10 (5,0;46,0)	47	19,60 (7,0;45,6)	0,00
Lower-limbs fat mass [% , median (minimum; maximum)]	148	9,60 (3,7;77,0)	115	9,80 (3,8;38,7)	98	10,85 (3,7;37,3)	84	11,70 (3,9;40,9)	63	12,10 (4,3;37,2)	47	13,90 (4,6;32,8)	0,00
Trunk fat mass [% , median (minimum; maximum)]	148	19,90 (4,1;44,9)	115	21,10 (5;50)	98	22,60 (5,6;51,8)	84	23,25 (5,3;57,9)	63	25,60 (6,6;53,0)	47	28,90 (7,0;46,1)	0,00
Total fat mass [% , median (minimum; maximum)]	148	15,85 (4,0;40,8)	115	16,30 (4,4;43,5)	98	17,45 (4,9;44,1)	84	18,45 (5,0;50,0)	63	20,50 (6,0;45,0)	47	22,10 (8,2;40,4)	0,00
Upper-limbs fat mass [g , median (minimum; maximum)]	148	943,00 (171;5927)	115	1038,00 (185;4326)	98	1082,50 (211;4688)	84	1203,50 (271;5659)	63	1399,00 (228;6079)	47	1768,00 (395;4256)	0,00
Lower-limbs fat mass [g , median (minimum; maximum)]	148	1943,50 (474;10988)	115	1905,00 (572;12322)	98	1991,00 (469;13030)	84	2162,00 (518;14751)	63	2661,00 (572;12099)	47	2762,00 (781;10444)	0,00
Trunk fat mass [g , median (minimum; maximum)]	148	6844,50 (1092;22932)	115	7328,00 (1354;27056)	98	7791,00 (1324;29864)	84	8517,00 (1386;33294)	63	9582,00 (1868;29589)	47	9961,00 (1570;25185)	0,00
Total fat mass [g , median (minimum; maximum)]	148	10218,50 (2091;41015)	115	10930,00 (2512;45104)	98	11623,50 (2213;96610)	84	12105,50 (1693;54948)	63	13954,00 (2995;49268)	47	16112,00 (3979;41086)	0,00
Upper-limbs fat-free mass [g , median (minimum; maximum)]	126	5497,50 (3734;8597)	102	5629,00 (3438;52310)	93	5735,00 (3766;8960)	84	5769,50 (3459;11129)	62	5719,50 (3430;9519)	47	6409,00 (4123;9911)	0,00
Lower-limbs fat-free mass [g , median (minimum; maximum)]	126	16392,00 (11271;21375)	102	16461,50 (11836;24085)	93	15832,00 (11267;22702)	84	15617,50 (11157;20750)	62	15947,00 (10480;20575)	47	16497,00 (10799;21081)	0,005
Trunk fat-free mass [g , median (minimum; maximum)]	126	26916,50 (20836;34715)	102	26627,00 (20232;34760)	93	26920,00 (19652;34086)	84	26731,50 (19167;33230)	62	26270,00 (17435;36913)	47	24924,00 (16771;32950)	0,00
Total fat-free mass [g , median (minimum; maximum)]	148	53031,50 (40978;68000)	115	52851,00 (41276;71782)	98	52200,50 (39381;70124)	84	51735,00 (39790;66773)	63	51495,00 (38028;68916)	47	50666,00 (36582;66371)	0,00

	n	Baseline	n	1 year after	n	2 years after	n	3 years after	n	4 years after	n	5 years after	p
Upper-limbs fat mass [% , median (minimum; maximum)]	78	42,60 (16,5;67,2)	58	41,60 (14,1;65,0)	47	45,20 (18,0;69,0)	41	43,60 (15,0;67,2)	32	42,65 (16,0;67,0)	20	44,80 (13,4;60,6)	0,305
Lower-limbs fat mass [% , median (minimum; maximum)]	78	31,75 (7,2;58,6)	58	29,10 (6,9;53,3)	47	28,80 (12,1;54,7)	41	28,00 (11,0;49,7)	32	27,35 (11,9;48,7)	20	27,15 (17,9;40,7)	0,00
Trunk fat mass [% , median (minimum; maximum)]	78	33,05 (12,1;64,0)	58	33,20 (14,0;60,0)	47	34,60 (12,4;56,8)	41	35,20 (9,9;58,4)	32	37,90 (15,6;53,8)	20	39,60 (11,1;51,9)	0,001
Total fat mass [% , median (minimum; maximum)]	78	34,35 (16,0;61,4)	58	31,35 (13,1;56,3)	47	33,00 (12,7;55,0)	41	33,60 (11,0;56,0)	32	34,80 (15,0;53,0)	20	36,65 (14,2;47,1)	0,00
Upper-limbs fat mass [g , median (minimum; maximum)]	78	2905,00 (745;10964)	58	2966,00 (495;10275)	47	3169,00 (847;10297)	41	3065,00 (757;7998)	32	3449,50 (550;10811)	20	3682,50 (711;7318)	0,004
Lower-limbs fat mass [g , median (minimum; maximum)]	78	6218,50 (1121;20175)	58	4855,00 (1133;14011)	47	4522,00 (1623;14749)	41	4781,00 (1609;12366)	32	4732,00 (1593;12441)	20	4919,00 (2330;9990)	0,003
Trunk fat mass [g , median (minimum; maximum)]	78	10869,00 (2499;32089)	58	10757,00 (3282;26948)	47	11280,00 (3072;27516)	41	10945,00 (2475;23790)	32	11320,00 (3773;22399)	20	12560,50 (2825;21564)	0,003
Total fat mass [g , median (minimum; maximum)]	78	20000,00 (7356;64694)	58	18928,00 (6357;49842)	47	20744,00 (6331;47724)	41	20932,00 (5258;44314)	32	20630,00 (7027;43476)	20	23349,50 (7136;37222)	0,001
Upper-limbs fat-free mass [g , median (minimum; maximum)]	73	3493,00 (2354;5691)	55	3453,00 (2668;5798)	46	3483,50 (2565;5280)	41	3598,00 (2705;5309)	32	4165,50 (2586;5431)	20	4110,50 (3229;6150)	0,009
Lower-limbs fat-free mass [g , median (minimum; maximum)]	73	11387,00 (8437;15713)	55	11686,00 (8913;15876)	46	11876,50 (8483;16115)	41	11785,00 (9312;17429)	32	11511,50 (9129;14617)	20	12003,50 (9297;14425)	0,03
Trunk fat-free mass [g , median (minimum; maximum)]	73	20024,00 (14260;26625)	55	20271,00 (16384;26586)	46	19898,50 (16003;25321)	41	20057,00 (14855;25565)	32	18756,50 (14529;25202)	20	18667,00 (14808;23423)	0,00
Total fat-free mass [g , median (minimum; maximum)]	78	38413,50 (29075;51114)	58	38569,50 (30803;51682)	47	38081,00 (30192;48018)	41	38063,00 (31674;47614)	32	38241,50 (30808;46135)	20	39596,00 (30612;45063)	0,004

Conclusion

Over the 5 years, there were significant changes in body composition in HIV-infected patients on cART. Different from women, men showed a sustained increase in % of fat mass of all segments evaluated.

