

MILD HEMOPHILIA A AND JOINT HEALTH IN REAL LIFE: IS THAT AN EMERGING ISSUE? A SINGLE CENTER EXPERIENCE

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Background and aims. Mild hemophilia A (mHA), defined by factor VIII levels between 0.05 and 0.40 IU/mL, is characterized by sporadic bleeds that rarely lead to symptomatic arthropathy. However, definition of mHA includes different bleeding phenotypes with manifestations that can widely vary between patients, and data concerning the extent on joint damage in mHA are limited. The aim of this study is to investigate joint status in our cohort of mHA patients, in order to detect any significant sign of arthropathy and to explore any relationship between joint health and FVIII levels, body mass index (BMI) and age. Furthermore, we perform a quality of life (QoL) assessment in order to detect any impairment health related.

Methods. Patients with FVIII between 0.05 and 0.35IU/ml and between 18 and 65 years old referred in our center in 2025 were included. For each patient elbows, knees and ankles were evaluated by HJHS (Hemophilia Joint Health Score) and by musculoskeletal ultrasound according to HEAD US (Hemophilia Early Arthropathy Detection with Ultrasound) protocol. Data regarding FVIII basal value, BMI and pain (according to NRS scale) were also collected. Variables were analyzed for the entire cohort and splitted according to age (< 49 yo and > 50 yo) and FVIII levels (from 0.05UI/ml to 0.20IU/ml and from 0.21IU/ml to 35IU/ml). EQ-5D-3L, SF36 and IPAQ questionnaires were administered to explore QoL and physical activity.

Results. Of the 96 mHA patients treated at our center, 42 hemophilia patients fulfilled inclusion criteria and were enrolled in the study. Results are reported in table 1. We globally found low joint health scores; median HEAD US was 2 (IQR 0-5), median HJHS was 2 (IQR 0-5). However, only 15 (36%) patients had no joint damage (HEAD US=0), 27 (64%) had at least one joint with a HEAD-US (table 1). No differences were found in HEAD US and HJHS according to

FVIII, nevertheless we found that for elderly patients and for whom with higher BMI there is a statistically significant increase in HEAD-US. 20 patients fulfilled all QoL questionnaires: 14/20 (70%) patients showed no impairment in QoL, 6/20 (30%) expressed discomfort related to musculoskeletal criticalities. In the IPAQ evaluation, 15/20 (75%) patients were classified as quite or very active and 5/20 (25%) inactive. Despite low sample size, we observed a correlation trend between high HJHS and worse QoL perception. No correlation between QoL and FVIII levels, HEAD US, age or BMI were found.

Conclusions. Our data suggest that mHA patients show overall better joint status compared to severe or moderate HA patients, without any differences according to severity FVIII deficiency. No correlation between HJHS and others variables was detected, in contrast we found a significant correlation between HEAD US and age and BMI, identifying these two parameters as risk factors for early arthropathy development. mHA patients showed overall good QoL, with only critical issue represented by pain and/or musculoskeletal impairment, suggesting that the disease burden is related to articular health rather than the disease itself. In conclusion, ultrasound joints alterations, even in the absence of clinical sign of arthropathy, should be routinely investigated in mHA patients in order to prevent or detect any reversible damage, that can occur especially in adulthood and in overweight patients and can affect QoL.

	all	FVIII			age			BMI		
		5%-20%	21-35%	p	< 49 yo	> 50 yo	p	< 25	> 25	p
Age	49 (33-60)	50 (33-62)	49 (34-58)		33 (29-46)	60 (57-63)		42 (30-50)	60 (56-64)	
FVIII	15 (10-20)	12 (10-15)	26 (21-30)		15 (12-20)	14 (10-21)		15 (12-20)	14 (9-22)	
HEAD US	2 (0-5)	2 (0-5)	0 (0-4)	0.14	0 (0-2)	4 (1-7)	<0.001	0 (0-3)	4 (1-8)	<0.005
HJHS	2 (0-5)	2 (0-5)	1 (0-2)	0.15	1 (0-2)	2 (0-5)	0.09	2 (0-2)	2 (0-5)	0.16
NRS	0 (0-2)	0 (0-2)	0 (0-0)	0.28	0 (0-1)	0 (0-3)	0.39	0 (0-0)	0 (0-5)	0.10
BMI	25 (23-27)	24 (22-27)	25 (24-26)	0.35	24 (21-25)	27 (24-29)	<0.001	24 (21-25)	28 (27-30)	<0.001