

MALATTIE EMORRAGICHE CONGENITE E ACQUISITE

## JOINT PROSTHETIC SURGERY IN PATIENTS WITH HEMOPHILIA A: CLINICAL-FUNCTIONAL OUTCOMES AND QUALITY OF LIFE.

**E. Zanon<sup>1</sup>, A. Napolitano<sup>1</sup>, A. Berizzi<sup>2</sup>, P. Simioni<sup>1</sup>.**

*1*Haemophilia Center, First Chair of Internal Medicine, Department of Medicine, University-Hospital of Padua Medical School, Padua; *2*Orthopedics and Traumatology Unit, University-Hospital of Padua Medical School, Padua.

**Background and Aims:** Hemophilic arthropathy is a chronic, progressive joint disease caused by repeated hemarthroses, leading to joint degeneration, pain, stiffness, and disability. It is a major source of morbidity in patients with severe hemophilia A, significantly impairing their functional independence and quality of life. The knee, hip, and ankle are the most frequently affected joints, often requiring surgical intervention when conservative measures are no longer effective. Joint prosthetic surgery represents a crucial therapeutic option for restoring mobility and reducing pain, but it requires careful multidisciplinary planning, particularly regarding perioperative bleeding management through factor VIII (FVIII) replacement therapy. The aim of this study was to evaluate the efficacy of perioperative FVIII treatment in ensuring adequate hemostasis and to assess the clinical-functional outcomes and impact on quality of life following joint replacement in patients with hemophilia A.

**Methods:** This prospective observational study included 22 patients with severe hemophilia A (mean age: 49 years) who underwent a total of 30 prosthetic joint surgeries at our center. The procedures included 18 total knee replacements (TKR), 7 total hip replacements (THR), 3 total ankle replacements, and 2 revision surgeries (1 for knee and 1 for hip periprosthetic infections). The average follow-up duration was 49 months. Perioperative FVIII replacement was administered according to individualized pharmacokinetic protocols. Clinical-functional evaluations included the Visual Analog

Scale (VAS) for pain, Range of Motion (ROM), Gilbert Score for joint status, and the Knee Society Score (KSS). Quality of life was assessed pre- and post-operatively using the SF-36 questionnaire and the Haemophilia Activities List (HAL), focusing on lower limb functions.

**Results:** Surgical hemostasis was judged good or excellent in all patients. The mean in-hospital FVIII consumption was 58,000 IU (range: 25,000–83,000 IU). Pain relief was substantial: VAS scores improved from 8.2 to 1.4 for hips and from 8.2 to 1.8 for knees. The Gilbert Score improved from 10/18 to 1.8/18 for hips and from 13.6/18 to 3.05/18 for knees, indicating a marked reduction in joint damage-related symptoms.

The HAL score increased from 55/100 to 90/100 in simple activities and from 42/100 to 65/100 in complex activities, reflecting greater autonomy in daily life. SF-36 scores improved from 20.28 to 47.35 (hip) and from 17.36 to 43.00 (knee), highlighting a considerable enhancement in overall well-being. Functional recovery was confirmed by KSS improvement (from 33.7/100 to 82.8/100) and by gains in ROM: +60° in hips and +30° in knees.

**Conclusions:** Joint prosthetic surgery, supported by personalized FVIII prophylaxis, is a safe and effective strategy for patients with hemophilia A and advanced arthropathy. It leads to significant reductions in pain, improvements in joint function and mobility, and marked gains in quality of life. These outcomes support the integration of orthopedic intervention within comprehensive hemophilia management programs.

**Email:** [angela.napolitano@studenti.unipd.it](mailto:angela.napolitano@studenti.unipd.it)

Patients	1	1A	3B	4	4A	5	5A	6(D)	7	7A	10	11	13	13A	14	AV	SD
Physical Health Problems Pre-operative	15.5	21.5	29.1	19.9	18.5	35.6	16.1	18.4	20	19.8	17	15.9	20.2	22.5	15	17,33	2,51
Physical Health Problems Post-operative	21.4	22.7	30.4	48.2	47.5	55.4	30.5	29.2	40.8	45.5	50.5	40.5	45.3	55.7	43	43	0
Emotional Health Problems Pre-operative	39.6	47.3	39.9	46.3	42.3	43.8	40.2	40.5	39.4	41.5	42.1	43	45.5	46.1	38.9	43	0
Emotional Health Problems Post-operative	54.3	53	50.9	55.4	54.9	47.7	50.5	59	55.5	56.2	56.4	54.3	53.5	55.7	50.2	56	4,24

A.

Patients	3	8	10A	12	12A	AV	SD
Physical Health Problems Pre-operative	25	20	16,2	17,2	23	20,28	3,73
Physical Health Problems Post-operative	45	48,2	40,5	55,5	55,7	47,35	6,40
Emotional Health Problems Pre-operative	39,6	46,3	40,2	42,1	46,1	42,86	3,18
Emotional Health Problems Post-operative	54,3	55,4	50,5	56,4	55,7	54,46	2,33

B.

Quality of Life ( Physical and Emotional Health Problems) measured by the SF36 questionnaire in patients undergoing knee replacement (A) and hip replacement (B)  
AV = average SD= standard deviation