

Should VTE prophylaxis be applied after total joint replacement in Hemophilia patients?

Anna Seltser MD², Aharon Lubetsky MD¹, Eran Avivi MD², Tami Brutman Barazani¹, Yehuda Amit MD², Gili Kenet Prof¹

¹National Hemophilia Center and Institute of Thrombosis & Hemostasis, Sheba Medical Center at Tel Hashomer, Israel

²Department of Orthopedics, Sheba Medical Center at Tel Hashomer, Israel



Introduction and Objectives

Hemophilia is a severe bleeding disorder leading to end-stage arthropathy. Patients with severe hemophilia often require major joint replacement surgeries. These patients might be in higher risk of complications in general while the pre and post management protocols haven't been established fully. Whereas VTE prophylaxis is common practice for orthopedic procedures, the issue of VTE prophylaxis for Hemophilia patients whose coagulopathy is being corrected around surgery, remains controversial. In this study we investigated a large cohort of hemophilia patients undergoing joint replacements in a tertiary center, aiming to evaluate the need for peri-surgical anticoagulation therapy.

Methods

We conducted a cohort study of patients treated and followed in the Israeli National Hemophilia center and operated in Sheba Medical center between January 1988 and October 2015. The peri-operative course following total joint primary replacements was analyzed. Additional revision surgeries in this group and their postoperative course were reviewed. Data was collected regarding demographics, comorbidities, type of surgery, factor concentrates therapy around the surgery and complications during follow up (bleeding including massive hemorrhage, infection, loosening, DVT, PE etc.).

Results

50 patients with hemophilia A and B (average age 42, range 20-68) underwent a total of 97 surgeries. Of the surgeries, 74 were total joint primary replacements (16 hips, 52 knees, 6 ankles) and 23 were revision surgeries due to different complications. **None of the patients received anticoagulant prophylaxis around the surgery. Despite proper hemostasis with therapeutic factor levels, no clinical evident VTE evolved in any patient.**

| | Total Hip Replacement | Total Knee Replacement | Total Ankle Replacement | Revisions | TOTAL |
|----------------------------------|-----------------------|------------------------|-------------------------|---------------|---------------|
| Number of procedures | 16 | 52 | 6 | 23 | 97 |
| Number of patients | 12 | 51 | 5 | 6 | 50 |
| Average Age (years) | 43.81 | 41.47 | 30.5 | 46.14 | 42.18 |
| Comorbidities conditions: | | | | | |
| HIV | 1 | 7 | 0 | 0 | 7 |
| HCV | 10 | 45 | 2 | 5 | 40 |
| HTN | 5 | 5 | 0 | 0 | 8 |
| DM | 2 | 3 | 0 | 0 | 3 |
| IHD | 1 | 1 | 0 | 0 | 2 |
| Hemophilia type: | | | | | |
| HA severe | 10 | 38 | 5 | 6 | 47 |
| HA mild | 1 | 1 | 0 | 0 | 2 |
| HB | 1 | 1 | 0 | 0 | 1 |
| Complications : | | | | | |
| Hemarthrosis | 0 | 3 | 0 | 0 | 3 |
| Superficial wound infection | 0 | 1 | 0 | 0 | 2 |
| Limited ROM-closed manipulation | 0 | 3 | 0 | 0 | 3 |
| Soft tissue hematoma | 0 | 4 | 0 | 0 | 4 |
| Scar dehiscence | 1 | 0 | 0 | 0 | 1 |
| Pneumonia | 0 | 1 | 0 | 0 | 1 |
| UTI | 0 | 1 | 0 | 0 | 1 |
| Candida infection of tongue | 0 | 1 | 0 | 0 | 1 |
| DIC + Sepsis + hemorrhagic shock | 0 | 0 | 0 | 1 | 1 |
| HG (g/dl): | | | | | |
| Average | 14.4 | 14.2 | 13.06 | 13.95 | 13.95 |
| (Range) | (12.36-15.43) | (10.75-16.49) | (10.69-14.44) | (11.55-16.45) | (10.69-16.49) |
| After | 9.69 | 10.16 | 11.38 | 9.54 | 10.21 |
| (Range) | (7.44-12.19) | (7.98-12.42) | (9.89-12.69) | (8.29-10.76) | (7.44-12.69) |
| Factor VIII level (%) | | | | | |
| Min | 30.34 | 40.12 | 34.75 | 28 | 39.8 |
| Average | 99.33 | 97.4 | 57 | 82.4 | 91.65 |
| Hospitalization duration (days) | | | | | |
| Average (Range) | 15.33 | 14.87 | 7.5 | 29.44 | 16.27 |
| | (9-25) | (4-27) | (5-11) | (7-55) | (4-55) |
| Anticoagulant prophylaxis (n) | 0 | 0 | 0 | 0 | 0 |
| Pneumatic stockings (n) | 0 | 3 | 0 | 1 | 4 |
| DVT/PE (n) | 0 | 0 | 0 | 0 | 0 |

Conclusions

Despite the concern that proper replacement factor therapy, applied before and after the surgery, may increase the risk for thromboembolic complications in patients with hemophilia undergoing joint replacement, our data shows that **prophylactic anticoagulation in this group of patients is not necessary.**



1-2: Pre-operation knee X rays of 25 years old male with severe hemophilia A that suffered from recurrent bleeding into knee joints. 3-4: RT knee X ray, post total knee arthroplasty with AGC posterior stabilized BIOMENT implant.



DOI: 10.3232/jso.ea.WFH2016.2016

Orthopedic issues
Anna Seltser

132--PP-M
9T0ZHM