

# COST-MINIMIZATION ANALYSIS OF DAMOCTOCOG ALFA PEGOL WITH THE TREATMENT OF HEMOPHILIA A IN TURKEY

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## Introduction

- Hemophilia A (HemA), congenital factor VIII (FVIII) deficiency, is a potentially life-threatening or seriously debilitating lifelong condition<sup>1</sup>.
- It is an inherited, rare disease caused by mutations in the gene coding for FVIII that result in a FVIII deficiency and leading to progressive joint destruction<sup>1</sup>.
- Prophylaxis in the form of regularly scheduled intravenous infusion of FVIII replacement concentrate is the standard of care to prevent bleeds and their long-term consequences<sup>1</sup>.
- The disease occurs worldwide with an estimated incidence of 1 in 5.000 male births and affects males predominantly<sup>2</sup>.
- In Türkiye, the number of patients diagnosed with HemA were estimated 5.055 for 2018<sup>3</sup>.
- The study aims to compare the lifetime utilization and cost of an extended-half life recombinant factor VIII (rFVIII), the damoctocog alfa pegol, with reimbursed standard half life (SHL) factors (octocog alfa, moroctocog alfa, turoctocog alfa) for the treatment of HemA in patients with age  $\geq 12$  years in Türkiye, from the public payer perspective.

## Methods

- In the Turkish setting, a cost-minimization model was developed using Microsoft Excel<sup>®</sup> 2013 to estimate the lifetime treatment utilization and cost associated with damoctocog alfa pegol vs SHL rFVIII molecules for the treatment of HemA.
- The summary of product characteristics was used to retrieve dosing regimens for each molecule.
- While calculating annual utilization per kg, it is assumed damoctocog alfa pegol is used twice a week with maximum dosing of 40 IU/kg and SHLs are used with their average dosing.
- Dosing under prophylaxis treatment for each rFVIII was obtained from literature<sup>4-8</sup>. Annual bleeding rate was used as 3.7 for all rFVIII<sup>9,10</sup>.
- National weight and mortality data were used. Drug prices were gathered from Turkish official sources as of May 2022 and discounted by 3% (pa.a).

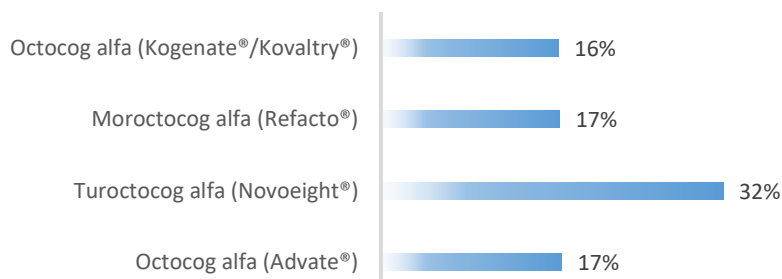
Treatment	Posology	Dosing Under Prophylaxis Treatment (IU/kg)
Damoctocog alfa pegol	Twice weekly 30-40 IU/kg	35.5
Octocog Alfa	3 or 4 times /week 20-40 IU/kg	34.5
Turoctocog Alfa	3 times/week 20 -40 IU /kg or 3 times/week 20-50 IU/kg	45.6
Moroctocog Alfa	3 or 4 times /week 20-40 IU/kg	30.6

Age	Average weight (kg)
11-18	68.9 kg
19-44	79.6 kg
45 +	78 kg

## Results

- The matching-adjusted indirect comparison demonstrated similar annualized bleeding rate with lower utilization for damoctocog alfa pegol versus SHL (octocog alfa), supporting the assumption of equivalent efficacy between included treatment options.
- Damoctocog alfa pegol had the lowest lifetime IU utilization of any available reimbursed rFVIII, and reduced lifetime factor utilization between 16% and 32%.
- When compared to SHLs and taking into consideration damoctocog alfa pegol 's premium price per IU over SHLs, damoctocog alfa pegol generated lifetime cost savings of 1.95 million TL to 4.65 million TL per patient, with overall saving ranging from 8% to 19%.
- As a result, damoctocog alfa pegol was estimated to be the least expensive option.

### Additional Lifetime IU Utilization Over damoctocog alfa pegol



Treatment	Additional Drug Cost Over damoctocog alfa pegol (TL)	Additional Drug Cost Over damoctocog alfa pegol (%)
Octocog Alfa (Advate®)	2.737.742	11%
Turoctocog Alfa (Novoeight®)	4.645.772	19%
Moroctocog Alfa (Refacto®)	2.562.828	11%
Octocog Alfa (Kogenate®/Kovaltry®)	1.950.292	8%

## Conclusion

- From the perspective of the public payer, damoctocog alfa pegol demonstrated good efficacy while being the lowest cost-generating option for the treatment of HemA patients in Türkiye, when compared to existing reimbursed SHLs.

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