

## **Comparison of Healthcare Costs and Hypersensitivities Between Daratumumab Intravenous and Subcutaneous Treatments in Patients with Multiple Myeloma**

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### **Background/Purpose:**

Daratumumab is a chemotherapy medication indicated for multiple myeloma with IV and SQ formulations. In a retrospective review of accelerated daratumumab administration, high incidences of infusion-related reactions were observed with daratumumab IV. Daratumumab SQ, which contains hyaluronidase, is administered subcutaneously and has shown decreased incidences of hypersensitivity reactions compared to daratumumab IV. A knowledge gap exists in establishing the hypersensitivity rates between formulations at Los Angeles General Medical Center and Norris Comprehensive Cancer Center.

### **Methodology:**

This retrospective observational study was conducted at LAGMC to compare hypersensitivity rates between daratumumab IV and SQ for multiple myeloma. We studied all doses from November 2015 to July 2023 via electronic health records. Eligibility criteria included those aged 18 or older diagnosed with multiple myeloma receiving treatment at LAGMC. A cost-benefit analysis of daratumumab IV versus SQ was conducted considering the cost of pre- and post-medication administration. Hypersensitivity data from LAGMC and Norris were compared to determine the rate of hypersensitivity reactions for each formulation. Analysis was performed on R Studio.

### **Results:**

A Chi-square test indicated a p-value of 0.0002071 between first dose administration of daratumumab IV and daratumumab SQ, showing an association between treatment type and hypersensitivity reaction incidence. With a total of 99 patients on daratumumab SQ, zero patients experienced hypersensitivity reactions.

A linear regression line comparing the weight and cost of treatment for patients on daratumumab IV shows an  $R^2$  value of 0.6384. The fixed cost of daratumumab SQ treatment using LAGMC's premedication regimen is \$6466.42/dose. Thus, daratumumab SQ is more cost-effective in patients weighing  $\geq 101.3$ kg.

### **Conclusions:**

This study suggests a statistically significant higher incidence of hypersensitivity reactions in patients on daratumumab IV than on daratumumab SQ. Cost-benefit analysis indicates that daratumumab SQ is more cost-effective for patients weighing over 101.3kg with multiple myeloma.