

Healthcare costs avoided in the treatment of acquired thrombotic thrombocytopenic purpura with caplacizumab in Colombia

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INTRODUCTION

Acquired thrombotic thrombocytopenic purpura (aTTP) is an acute life-threatening disease where mortality rates are critical outcomes. Caplacizumab has been included as part of the treatment of aTTP along with plasma exchange and immunosuppression.

OBJECTIVE

To determine health outcomes and costs avoided in the treatment of an aTTP episode with caplacizumab.

METHODS

- A partitioned survival model with two health states (survival & death) was developed for expected clinical outcomes and costs among patients with an episode of aTTP, treated with the standard of care (SoC) composed of plasma exchange + immunosuppression, versus treatment with caplacizumab as an add-on to the SoC.
- Outcomes included mortality rates within 30 days, platelet normalization within 10 days, and number of patients without exacerbations or relapses within one year after an aTTP episode. Costs included diagnosis, support measures, SoC treatment, hospitalization, relapses, and exacerbations. Cost of caplacizumab was not included.
- The analysis modelled a hypothetical cohort of 100 patients with an aTTP episode.
- Clinical data for health outcomes was obtained from published literature^{1,2,3} (Table 1).
- Costs were obtained from public local sources^{4,5} (Table 1).
- All costs are expressed in 2022 USD\$ using an exchange rate of COP\$4,800 per USD\$1.



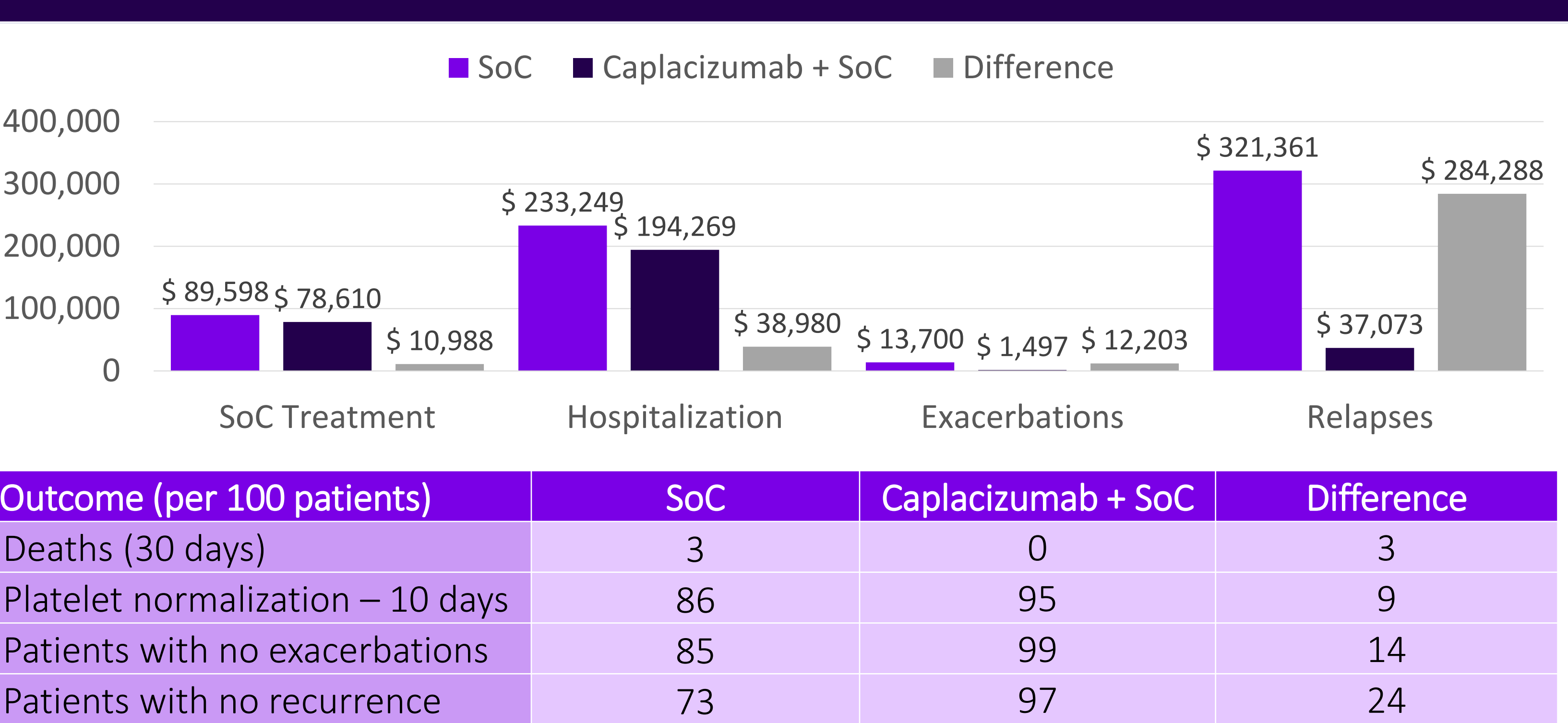
POSTER HIGHLIGHT: The use of caplacizumab in combination with plasma exchange and immunosuppression for the treatment of aTTP has the best healthcare outcomes with reduced exacerbations and relapses, representing a reduction in the use of healthcare resources and costs associated.

Table 1: Main Model Parameters

Effectiveness Parameters		
Variable	SoC	Caplacizumab + SoC
Survival curve distribution	Weibull - α : 245.96 β : 0.70	Weibull - α : 16.56 β : 0.50
Platelet normalization curve distribution	Weibull - α : 5.67 β : 1.25	Weibull - α : 4.16 β : 1.26
Exacerbations	12.8%	1.4%
Recurrence	25.6%	2.9%

Costs Parameters	
Variable	Value
Plasma exchange (per day)	\$ 131
Hospitalization (Ward-ICU)	\$ 79 - \$ 303
Exacerbations	\$ 1,103.42
Relapses	\$ 12,921.94

Figure 1: Healthcare and costs outcomes - SoC vs Caplacizumab + SoC



CONCLUSIONS

Caplacizumab + SoC compared to SoC represents better health outcomes including greater survival and reduced number of exacerbations and relapses, as well as a reduction in healthcare resources use associated with these events.

RESULTS

Healthcare Outcomes

- For the comparison between SoC versus caplacizumab + SoC
- Mortality within 30 days was 3 versus 0 deaths,
 - Platelet normalization was achieved within 10 days in 86 vs 95 patients
 - Patients with no exacerbations and no relapses were 85 versus 99, and 73 versus 97, respectively

Costs Outcomes

- Costs for the SoC were USD\$745,694 compared to USD\$399,234 for caplacizumab, for a total difference of USD\$346,460 for 100 patients (46.5% reduction).
- Costs avoided were mainly due to reduced recurrence (38.1%) and hospitalization (5.2%).

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