Pregnancy-Triggered Atypical Hemolytic Uremic Syndrome (aHUS): A Global aHUS Registry Analysis

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This is a summary of the key disease features and outcomes for women with pregnancy-triggered atypical hemolytic uremic syndrome (p-aHUS for short) who are enrolled in the Global aHUS Registry.

- p-aHUS is a rare disease and better understanding of its features and outcomes can help physicians to diagnose it and treat women with this disease.

Background

- aHUS is a rare disease that can be triggered by pregnancy, among other causes.
- In patients with aHUS, part of their immune system (the complement system) is overactive, which can lead to damage to the body, especially the kidneys.
- p-aHUS is difficult to diagnose because early symptoms are similar to other known pregnancy complications.
- Eculizumab (Soliris®) was developed by Alexion Pharmaceuticals, Inc., and was approved to treat aHUS in 2011.

What did this analysis look at?

- Patient characteristics, disease features, and outcomes of women in the Global aHUS Registry with p-aHUS were compared with those of women of child-bearing age with aHUS not triggered by pregnancy (non-p-aHUS). Comparisons included:
  - age, genetic mutations related to the complement system, and family history of aHUS
  - kidney disease and other complications associated with aHUS
  - response to eculizumab treatment

What is the Global aHUS Registry?

- The observational Global aHUS Registry was established in 2012 for long-term follow-up of patients with a diagnosis of aHUS.
- It is the largest collection of information about patients with aHUS from a single registry.

What were the findings from this analysis?

Patient characteristics

- Registry data for women with p-aHUS and women of child-bearing age with non-p-aHUS were compared.
  - Age, family history of aHUS, and the proportion of women with genetic mutations related to the complement system were similar across both groups.

Disease features

- The proportion of women who received treatment for kidney disease (a common complication with aHUS) was similar for those with p-aHUS and those with non-p-aHUS.

| Patients included | p-aHUS = 51 | non-p-aHUS = 395 |
|-------------------|-------------|------------------|
| Dialysis* = 14%   | Kidney transplant* = 24% | Dialysis* = 11% | Kidney transplant§ = 29% |

* Dialysis from the onset of symptoms; § Kidney transplant after aHUS diagnosis.
Many women also experienced other complications associated with aHUS and the proportions were similar across both groups:

- Heart problems: 14% in treated vs. 12% in not treated.
- Lung problems: 10% in treated vs. 7% in not treated.
- Central nervous system problems: 18% in treated vs. 12% in not treated.
- Gut problems: 18% in treated vs. 19% in not treated.

**Eculizumab treatment**
- In both groups, the likelihood at any point in time of developing serious kidney disease, known as end-stage renal disease, was reduced for women treated with eculizumab compared with those who were not.

  - Eculizumab-treated women were 7 times less likely to develop end-stage renal disease at any point in time.

**Plasma infusion/plasma exchange**
- The proportion of women who received plasma infusion/plasma exchange to treat aHUS was also similar for those with p-aHUS and those with non-p-aHUS.
  - In both groups, most of those treated with eculizumab received plasma infusion/plasma exchange prior to eculizumab.

**What were the main conclusions from this analysis?**
- These findings confirm that aHUS triggered by pregnancy (p-aHUS) is similar to aHUS.
- Women with p-aHUS receiving eculizumab treatment have a lower likelihood of developing end-stage renal disease over time compared with those not receiving eculizumab, as also seen in women with non-p-aHUS.

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- Alexion thanks all of the patients, physicians, and patient organizations for their assistance with the Global aHUS Registry.
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**This summary is based on the following research article:**
Fakhouri F et al. Pregnancy-triggered atypical hemolytic uremic syndrome (aHUS): a Global aHUS Registry analysis. *Journal of Nephrology*, 2021: https://doi.org/10.1007/s40620-021-01025-x