CYTOKINE RELEASE SYNDROME INCIDENCE AND MANAGEMENT IN CAR-T THERAPIES: A COMPARATIVE STUDY OF AXICABTAGEN CILOLEUCEL AND TISAGENLECLEUCEL

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Abstract number: 4CPS-098

ATC code: A16 OTHER ALIMENTARY TRACT AND METABOLISM PRODUCTS

Background and importance

Chimeric Antigen Receptor T-Cell(CAR-T) therapies have significantly improved leukemias, lymphomas, and multiple myeloma treatments. However, they can induce several adverse effects such as cytokine release syndrome(CRS), which typically manifests its symptoms within first 3-14 days and can be potentially fatal. As a result, early treatment is essential, using drugs such as interleukin-6 inhibitors, among which tocilizumab stands out.

Aim and objectives

To analyze and to compare cytokine release syndrome incidence following different CAR-T therapies and its resolution through tocilizumab administration.

Material and methods

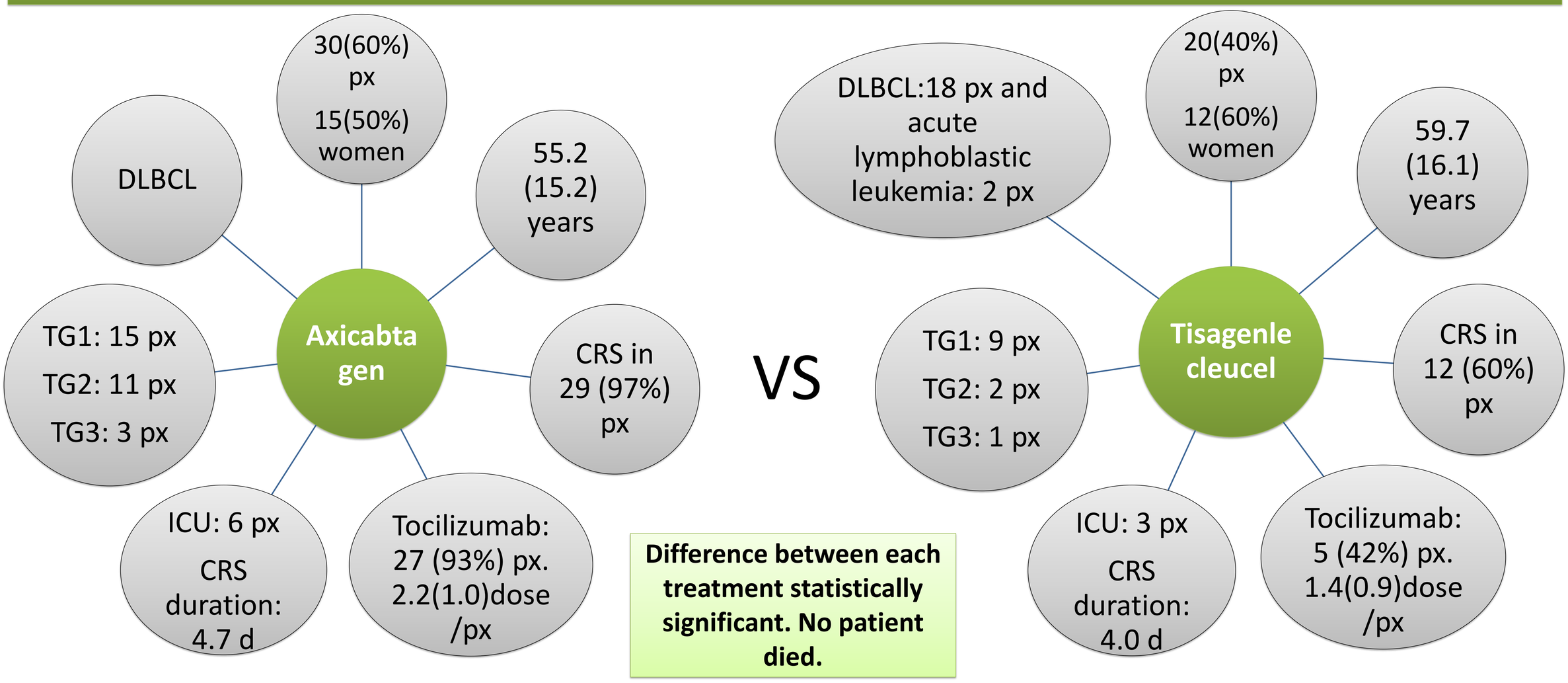
-Observational, descriptive and retrospective study from January 2020 to August 2024.

- Inclusion criteria: all patients treated with CAR-T therapies(axicabtagen ciloleucel or tisagenlecleucel) in a tertiary care hospital

- Variables: gender, age, diagnosis, first infusion date; toxicity: yes/no, grade, start/end date and treatment; tocilizumab doses required, ICU stay, and deaths.

-Quantitative variables are expressed as mean and standard deviation(SD) and qualitative variables as number and percentage(%). The chi-square test was used to compare qualitative variables.

Results



Difference between each treatment statistically significant. No patient died.

Conclusion and relevance

This study suggests that patients treated with axicabtagen are more likely to develop CRS and require more tocilizumab doses compared to those treated with tisagenlecleucel. It also suggests that CRS resolution time after tocilizumab administration is very similar in both treatments and TG1 is the most likely TG.