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Visualizing Systemic Lupus Erythematosus Symptoms and Treatment

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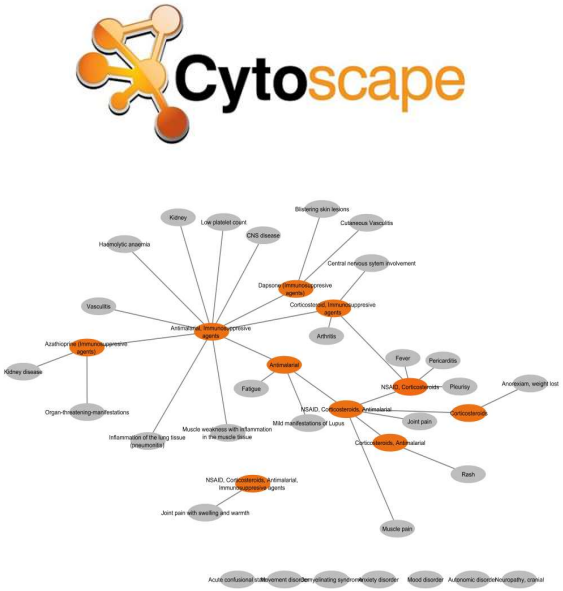
INTRO

Systemic Lupus Erythematosus (SLE), a rare autoimmune disease, presents a unique challenge in medical research due to its vague and diverse symptomatology. Often, symptoms mimic symptoms of other diseases, complicating diagnosis and treatment. This research project seeks to address this challenge by harnessing the power of Cytoscape, a network analysis and visualization tool, to create an interactive web-based visualization of reported symptoms commonly manifested by SLE patients. This research's goal is to offer a user-friendly web-based tool that not only visualizes the complex interplay between SLE symptoms and treatment strategies but also fosters collaboration among researchers. By doing so, we aim to improve the management and treatment of SLE, contributing to a better quality of life for affected individuals.

FUTURE + CONCLUSION

Overall, we were able to fully visualize what treatments work for which symptoms and create a web of node networks that interact with each other. As of now, the focus has been retrieving more information for vague symptoms that don't have enough information. Our goals for the future is the solidify the proof of concept for our ideas.



METHODS

Our approach involves identifying, categorizing reported symptoms, treatments, and related data from secondary data sources that include research journals and online sources. Our goal was to create a proof of concept for the methodology of showcasing relationships between disease and treatment with Cytoscape. Information regarding lupus is acquired from secondary sources that includes research papers and medical journals which discuss the symptoms, treatments, and other factors.

A centralized dataset of symptoms with their treatment from medical and research journals related to SLE was created. As we move forward, the data visualization we create will serve as a vital resource and example of showcasing large amounts of data into a visualization for researchers and clinicians, allowing for a more holistic understanding of SLE.

RESULTS

The result of the project provides a simplified data visualization of relationships between symptoms and treatment extracted from medical and research journals. The purpose of this research project is to provide an easier way to extract and absorb information while providing a better understanding of Lupus and their interactions.