It's a Mab, Mab world…..

In the fight against COVID, and in other times in medicine, we have allowed drug name abbreviations or terms to be common practice. We must remember not to use abbreviations or terms that can be ambiguous. A case of this was recently highlighted with the use of "monoclonal" as a term for COVID treatment. We would like to define what "monoclonals" are and include some safety considerations.

Monoclonal Antibodies, what are they?

Monoclonal antibodies are proteins engineered in a lab to imitate the natural immune system's ability to target and fight pathogens. As is the case with our own immune systems, each antibody is designed to target a specific antigen. The term "monoclonal" indicates that the antibody was produced by a single cell line, thus resulting in identical antibody molecules. Monoclonal antibodies make up a large and diverse group of medications ending in the stem word "mab" and are used for multiple diseases, including but not limited to rheumatoid arthritis, inflammatory bowel disease, multiple sclerosis, some types of cancer and, now, COVID-19.

How are we using them to fight COVID-19?

Currently, there are multiple monoclonal antibodies approved for use in Canada for COVID-19 under an interim authorization: bamlanivimab, casirivimab and imdevimab, and sotrovimab. These monoclonal antibodies target a protein on the virus' surface and are indicated for treatment of mild to moderate COVID-19 in those 12 years of age and older who are at high-risk for progressing to hospitalization and/or death. They are not authorized for hospitalized patients. Sotrovimab is on the SHA formulary for use in an outpatient setting in patients who meet specific criteria. Tocilizumab is a previously-developed monoclonal antibody that targets interleukin-6 (IL-6). It was not designed specifically for COVID-19; however, by targeting IL-6, an inflammatory cytokine, it helps reduce the inflammatory response of the body caused by COVID-19. It was added to the SHA Formulary early this year for severely ill hospitalized patients who meet specific criteria. Additional therapies exist but are not currently available through SHA.

In conclusion, the broad term **monoclonal or monoclonal antibody** captures dozens of different medications for several different disease states. Even within the treatment of COVID-19, the indications and mechanisms of action differ between monoclonal antibodies. It is safest to refer to each medication by its specific generic name to avoid any confusion.

Safer Practice Recommendations

- Use an order set if available when ordering,
- Order using complete generic drug name; note that using shortened or abbreviated names for medications is highly error prone,
- Refrain from issuing verbal orders unless the situation is emergent. If verbal orders must be used always get a read-back,

- Don't assume that a monoclonal antibody is being ordered for COVID-19 treatment as there could be other reasons to use a monoclonal antibody.

For additional information please contact your local pharmacy department.

References:

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