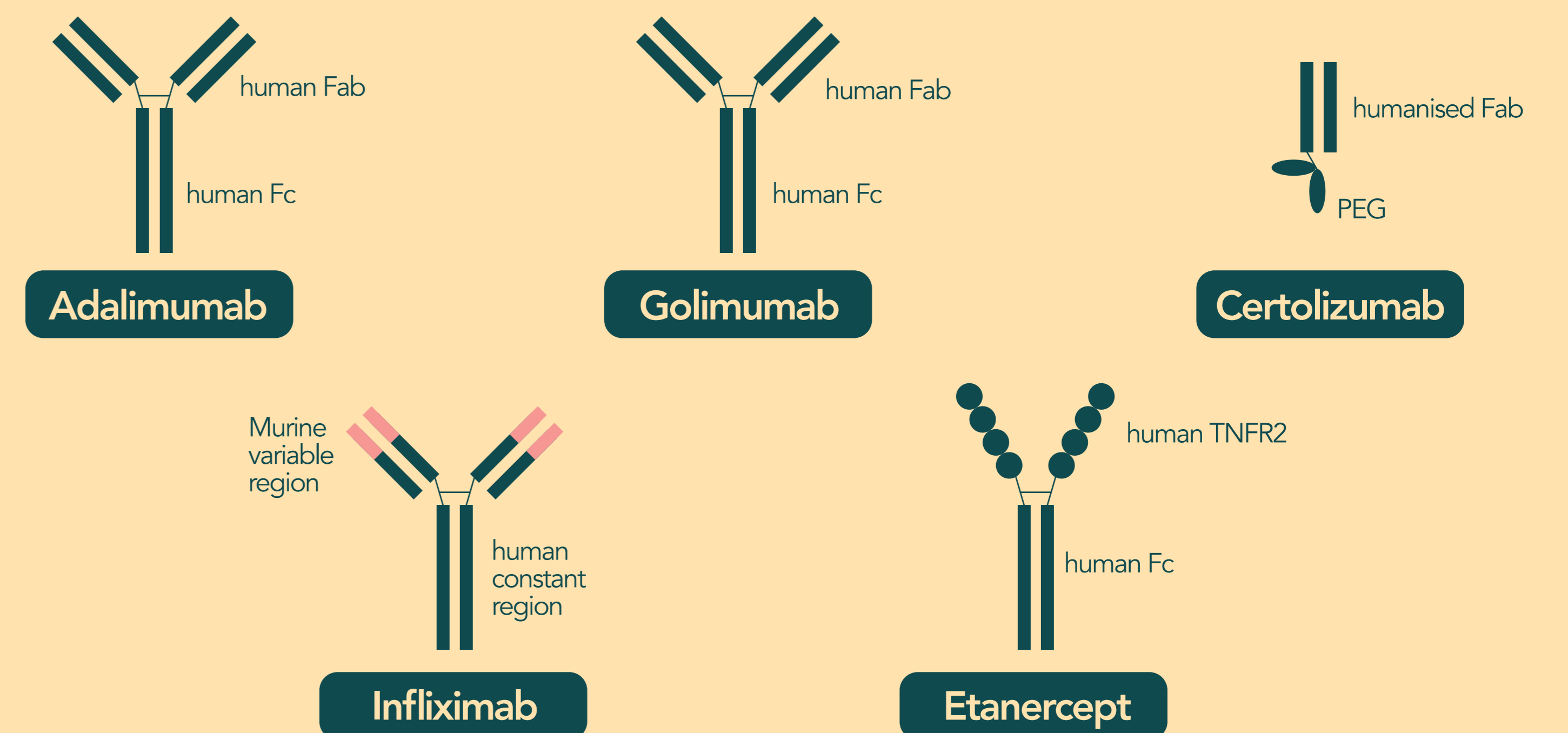


# Tumor Necrosis Factor Inhibitor-Induced Pleuropericarditis: A Retrospective Evaluation Using Data from Vigibase

Qun-Ying Yue<sup>1</sup>, Qingxia Zhang<sup>2</sup>

<sup>1</sup>Uppsala Monitoring Centre, Uppsala, Sweden; <sup>2</sup>Department of Pharmacy, Xuan Wu Hospital, Capital Medical University, Beijing, P.R.China



## Background

Anti-TNF $\alpha$  agents are widely used in a variety of autoimmune and inflammatory diseases. Pleuropericarditis associated with anti-TNF $\alpha$  agents was identified as a signal in a screening of Vigibase, the WHO global database of individual case safety reports.

## Objectives

The aim of this study was to evaluate pleuropericarditis associated with anti-TNF $\alpha$  agents in Vigibase with a focus on its types and risk factors.

## Methods

All variables contained in the pleuropericarditis reports were reviewed. Well-documented reports (vigiGrade completeness score  $\geq 0.80$  or with informative narrative) were analyzed for clinical features. Bradford-Hill criteria was used in the assessment.

## Results

Up to 18 Dec 2019, there were **94 unique cases** from **18 countries** reporting pleuropericarditis with anti-TNF $\alpha$  agents. Among the 94 reports, **42 were identified as well-documented** and further assessed: **39 were serious**, including **three fatal and seven life-threatening**. In **35 cases**, anti-TNF $\alpha$  agent was the **only suspected drug**. **Positive de- / re-challenge** were reported in **95% and 17%**, respectively. **The times to onset** showed a large variability, ranging **from one to 75 months (mean=24)**. The most commonly involved anti-TNF $\alpha$  agents are **adalimumab, infliximab and etanercept**; and the mostly reported pleuropericarditis types are **autoimmune-related with** (n=17) or **without** (n=15) **co-reported drug-induced lupus** (DIL), or **infection-related** (n=8). While adalimumab was mostly reported in the infection-related cases (7/8), infliximab was the mostly reported in the autoimmune-related cases, in particular co-reported with DIL (9/17). There have been four cases where the reaction occurred actually one to two months after the anti-TNF $\alpha$  agents were stopped. Based on the **Bradford-Hill criteria** the **anti-TNF $\alpha$  agents associated pleuropericarditis are considered as a class effect**.

**42** well documented reports

## Pleuropericarditis types

**32** Autoimmune-related 17 with DIL 15 without DIL

**8** Infection-related

Considered as a **class effect**

## Conclusions

To manage the serious cardiopulmonary complications, the health care professionals need to pay attention to the clinical features of pleuropericarditis cases, since they may cause diagnostic and therapeutic difficulties. Considering the long elimination time, clinicians need to be reminded to remain vigilant for the adverse reactions even after discontinuing anti-TNF $\alpha$  therapy.

## Disclaimer

The authors are indebted to the national centres which make up the WHO Programme for International Drug Monitoring and contribute reports to Vigibase. The opinions and conclusions of this study are not necessarily those of the various centres nor of the WHO.