

# Journeying Through Evidence: Scoping the Revival of Anti-TNF Alpha in Psoriasis Treatment and Cardiovascular Risk Reduction

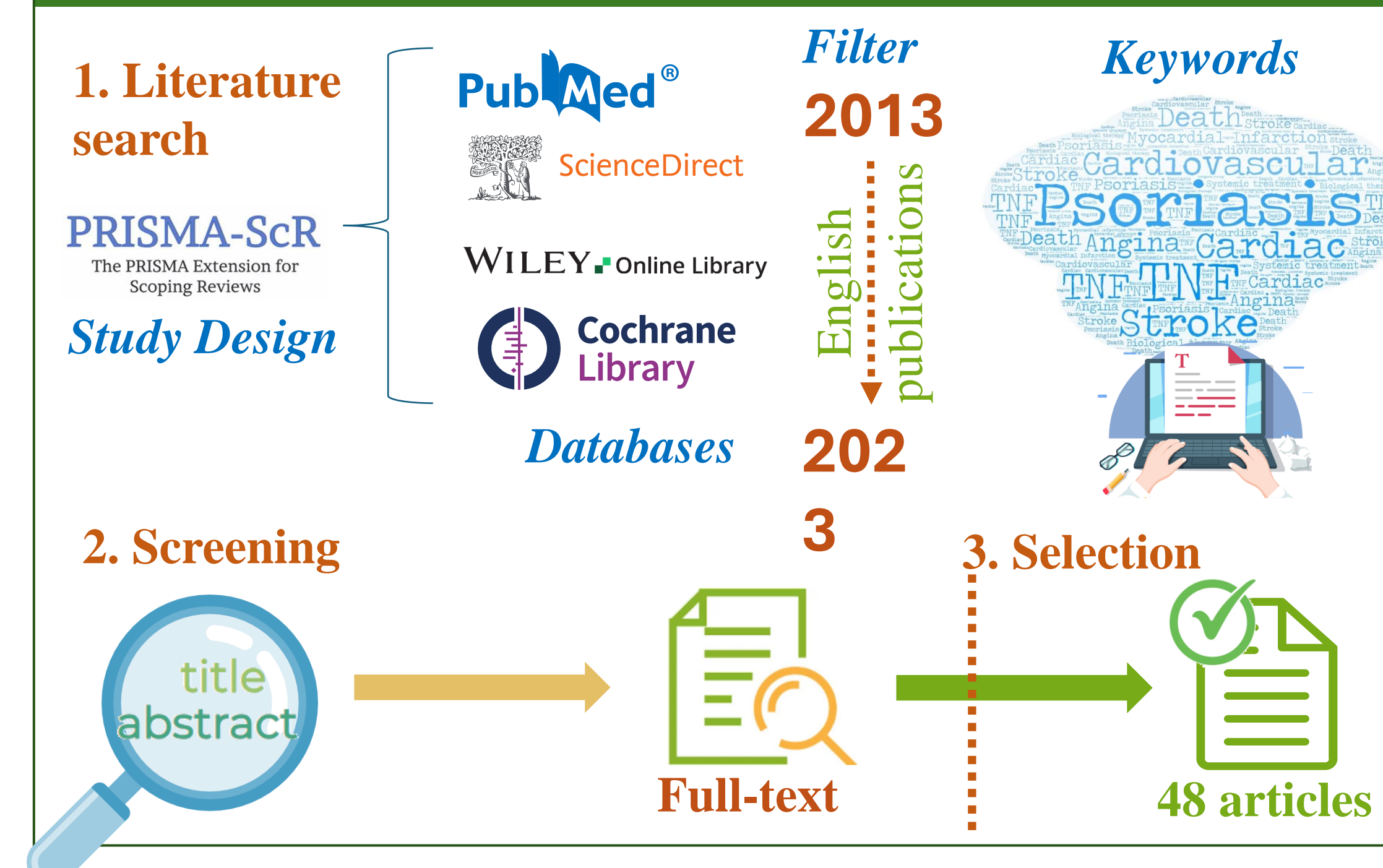
Son MAI<sup>1,2</sup>, Thomas FRANCK<sup>3</sup>, Pauline GOUTTEFARDE<sup>3,4,5</sup>, Yves MBAMA<sup>4</sup>, Gilles CIZERON<sup>1</sup>, Mathieu ORIOL<sup>1</sup>, François MACCARI<sup>6</sup>, Beatrice TROMBERT<sup>5,7</sup>, Jean-Luc PERROT<sup>6,9,10</sup>, Bienvenu BONGUE<sup>1,8</sup>

<sup>1</sup>Technical Support and Training Center for Health Examination Centers (CETAF); <sup>2</sup>Science Engineering, Health, Jean Monnet University; <sup>3</sup>Gérontopôle Auvergne Rhône Alpes (AURA); <sup>4</sup>Institut PRESAGE, Jean Monnet University; <sup>5</sup>SAINBIOSE Laboratory; <sup>6</sup>RESO; <sup>7</sup>CHU of Saint Etienne; <sup>8</sup>Saint Etienne Dermatology University Hospital; <sup>9</sup>Laboratory of Tribology of Systems UMR CNRS 5513; <sup>10</sup>Elderly Health, Jean Monnet University.

## INTRODUCTION

- 2%-3% of the world's population suffer from psoriasis, imposing significant physical and psychological burdens on patients<sup>1</sup>. There is no cure for psoriasis, but it is **TREATABLE**<sup>2</sup>.
- Mounting evidence suggests a potential revival of Anti-tumor necrosis factor alpha (**anti-TNF- $\alpha$** ) therapy, driven by insights into its efficacy, safety profile, and intriguing cardio-protective properties<sup>3</sup>.
- This review seeks to navigate the existing literature, mapping the landscape of **anti-TNF- $\alpha$** 's resurgence in psoriasis treatment and its implications for **cardiovascular risk reduction**.

## METHODS



## RESULTS

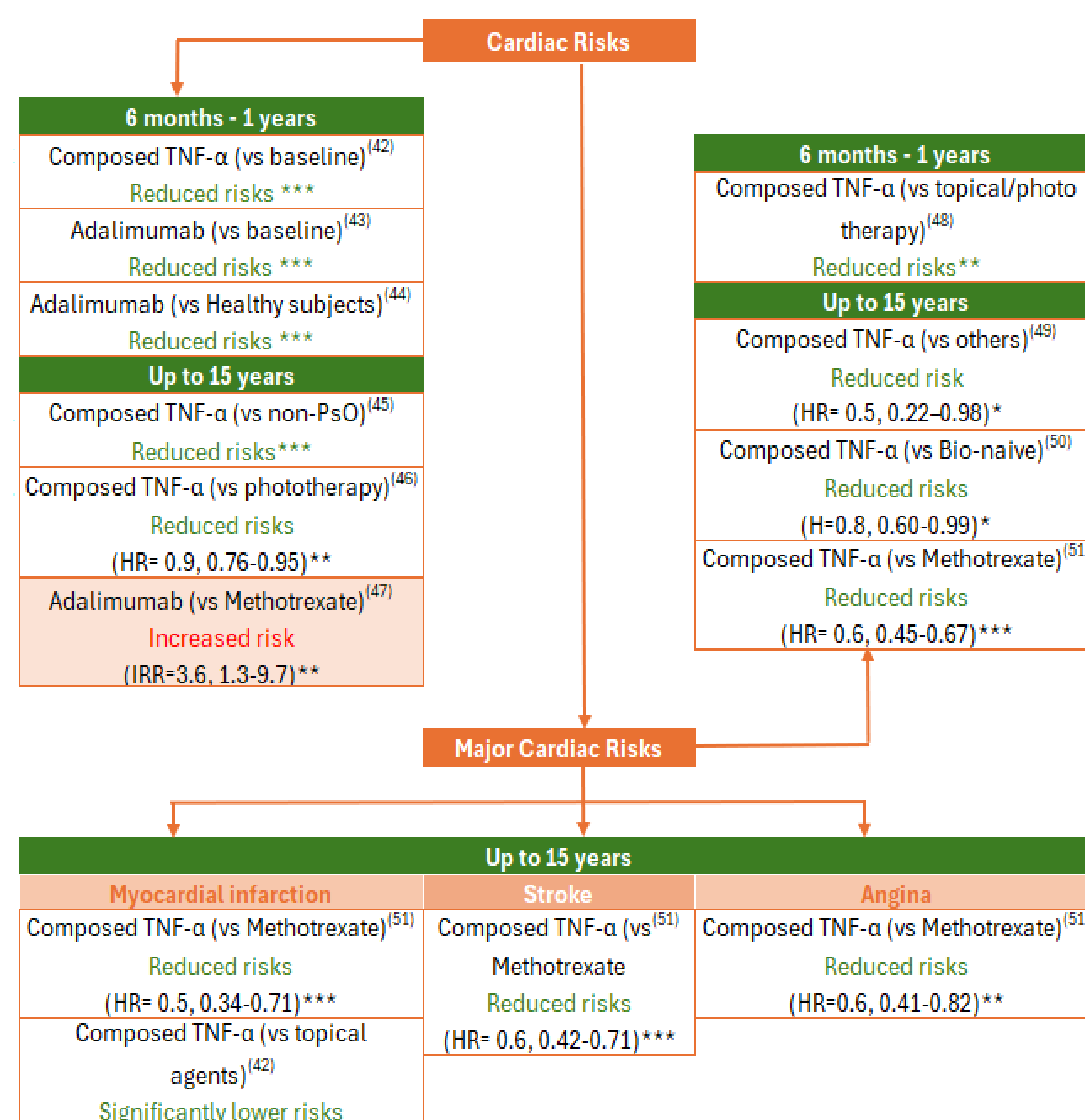
**TNF- $\alpha$  inhibitors**, exhibit a **low and stable** rate of cardiac events (CEs) over the last 10 years. Studies from 2013 to 2023, including randomized controlled trials (RCTs) and cohorts involving 254,051 psoriasis patients, affirm the safety of adalimumab, etanercept, infliximab, certolizumab, and golimumab, suggesting their **long-term use poses no significant CE risks**.

- TNF- $\alpha$  **reduced hazard risks** for cardiac events (CEs), major CEs, myocardial infarction (MI), stroke, and angina.
- **Adalimumab** lowered cardiovascular biomarkers, but a **long-term** study noted **increased** cardiac disorder risk.
- Other TNF- $\alpha$  individual drugs do not have an effect on CE risks.

### Cardiac-related risk profiles in psoriasis-treated patients with TNF- $\alpha$

Treatment	Time points	Cardiac Events (CEs)	Major CEs	Heart failure	Myocardial infarction	Stroke	Angina	CE deaths
Adalimumab	3 months - 12 months	0 (0.0) <sup>(4)</sup>	0 (0.0) <sup>(10)</sup>	0 (0.0) <sup>(18)</sup>	2 (0.8) <sup>(23)</sup>		1 (0.3) <sup>(26)</sup>	
		2 (1.9) <sup>(5)</sup>	0 (0.0) <sup>(11)</sup>	1 (0.9) <sup>(19)</sup>	1 (0.2) <sup>(24)</sup>			
		1 (3.1) <sup>(6)</sup>	0 (0.0) <sup>(12)</sup>		2 (0.1) <sup>(16)</sup>			
			2 (0.7) <sup>(13)</sup>					
			IR=0.0 <sup>(14)</sup>					
			IR=1.6 <sup>(15)</sup>					
Adalimumab	1-12 years	9 (2.9) <sup>(7)</sup>	IR=0.5 <sup>(17)</sup>	3 (IR=0.3) <sup>(20)</sup>	1 (1.3) <sup>(25)</sup>	IR=0.4 <sup>(17)</sup>	3 (1.9) <sup>(25)</sup>	2 (0.06) <sup>(22)</sup>
		2 (0.4) <sup>(8)</sup>		11 (IR<0.1) <sup>(21)</sup>	22 (IR<0.1) <sup>(21)</sup>			
		IR=0.5 <sup>(9)</sup>		14 (0.3) <sup>(22)</sup>	IR=0.2 <sup>(17)</sup>			
Certolizumab Pegol	3 months - 12 months			0 (0.0) <sup>(29)</sup>				
	>12 months - 12 years		10 (2.5, IR=0.8) <sup>(27)</sup>	IR=0.1 <sup>(30)</sup>	IR=0.1 <sup>(30)</sup>		IR=0.1 <sup>(30)</sup>	2 (0.5, IR=0.2) <sup>(27)</sup>
Etanercept	3 months - 12 months	0 (0.0) <sup>(31)</sup>	IR=0.3 <sup>(32)</sup>	1 (1.2) <sup>(33)</sup>	1 (1.4) <sup>(35)</sup>		1 (4.3) <sup>(37)</sup>	
	>12 months - 12 years	0 (0.0) <sup>(4)</sup>		14 (0.6) <sup>(34)</sup>	17 (0.7) <sup>(34)</sup>			1 (0.04) <sup>(34)</sup>
Golimumab	3 months - 12 months				1 (0.4) <sup>(39)</sup>			
	>12 months - 12 years	0 (0.0) <sup>(38)</sup>						
Infliximab	3 months - 12 months				1 (6.3) <sup>(4)</sup>			
	>12 months - 12 years	13 (IR=0.9) <sup>(40)</sup>		1 (0.5) <sup>(41)</sup>	3 (0.6) <sup>(41)</sup>			

### Association of TNF- $\alpha$ and CEs in patients with psoriasis



## CONCLUSIONS

- **TNF- $\alpha$  inhibitors** are better than non-biologic psoriasis meds and even no systemic therapy, as they **lower the risk of stroke and heart problems**
- TNF- $\alpha$  inhibitors could be considered earlier in the treatment algorithm, before anti-IL17 or IL23 agents, thank to their potential cardiovascular benefits and the chance of reaching PASI 90.
- Further long-term studies are warranted to delineate their precise cardiovascular effects and optimize treatment strategies in psoriasis management.

## References

1. WHO. Report on Psoriasis 2016.
2. Adriana Rendon, 2019. Psoriasis Pathogenesis and Treatment.
3. Z Yang et al., 2016. The effect of TNF inhibitors on cardiovascular events in psoriasis and psoriatic arthritis: an updated meta-analysis. Clin Rev Allergy Immunol. 2016 Oct;51(2):240-7. doi: 10.1007/s12016-016-8560-9.

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