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Title: Risk of respiratory tract infections and serious infections in psoriasis patients treated with biologics: results from the BioCAPTURE registry.

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Introduction

Biologics for psoriasis are associated with an increased risk of infections. However, different risks were reported in previous studies. COVID-19 has resulted in attention for risk of respiratory tract infections (RTI) and serious infections (SI) in this population. Therefore, the aim of the current study was to determine the differential effect of biological therapies on risk of RTI and SI including SARS-CoV-2 infections among psoriasis patients who were treated with currently available biologics in a real-world setting.

Material and Methods

Patient and treatment characteristics were extracted from the BioCAPTURE database. Crude incidence rates with 95% confidence intervals (CI) of RTI and SI were calculated per 100 patient-years (PY) for each biologic. Negative Binomial Regression modelling was used to explore the risk of RTI. Multivariable analyses were performed using a frailty Cox proportional hazards regression model to estimate hazard ratios for the risk of first SI. Both models corrected for multiple treatment episodes within patients. A post-hoc exploratory analysis of SARS-CoV-2 infections was performed in order to provide an up-to-date overview.

Results

Overall, 714 patients with 1325 treatment episodes were included. A total of 2224 RTI and 63 SI were reported. Crude rates of RTI per 100 PY were highest for infliximab (72.2, 95% CI: 54.8-93.5), etanercept (67.4, 95% CI: 62.8-72.3), and ixekizumab (62.8, 95% CI: 47.4-81.7), and lowest rates for secukinumab (48.7, 95% CI: 38.1-61.4). For SI, rates were highest for ixekizumab (6.0, 95% CI: 2.2-13.4) and infliximab (4.0, 95% CI: 1.0-10.9), and lowest for secukinumab (0.7, 95% CI: 0.1-3.5). Adjusted analyses showed no differential risk of RTI or SI between adalimumab, etanercept, infliximab, ustekinumab, secukinumab, ixekizumab, and guselkumab. Regarding SARS-CoV-2 infections, the crude incidence rate was 3.8 (95% CI: 2.2-6.1) per 100 PY during 2020 in a single BioCAPTURE centre.

Discussion

No differential risk of RTI or SI was found between biologics, including IL-17 and IL-23 inhibitors, in a daily practice cohort of psoriasis patients. Validation of these results in other real-world studies is for future perspective.