Introduction

Atopic dermatitis (AD) is a dermatosis which can prove burdensome and hard to control for patients with severe disease. This condition, if Eczema Area and Severity Index (EASI), Severity Scoring of Atopic Dermatitis (SCORAD) and Dermatology Quality of Life Index (DLQI) cannot be controlled by daily application of steroids and emollient creams. Over time, biological drugs have been proposed to treat this pathology, targeting those interleukins which are pivotal in the pathogenesis of AD, such as IL-4 and IL-13, but some subtypes of this dermatosis, such as portrait dermatitis, are poorly responsive. At the same time, timed shots of monoclonal antibodies can be bothersome to some patients, which would rather take oral medications.

Small molecules targeting the Janus Kinase (JAK) pathway have been proposed over time for the treatment of AD and several molecules have reached the market to be prescribed. The rationale is that the JAK/STAT pathway is an necessary pasage for the transduction of signal and activation by several cytokines and, especially JAK1, seems to play a crucial role in pruritic dermatoses.

As a member of the JAK1 inhibitors, abrocitinib is one of the latest molecules developed and preliminary clinical results demonstrate good efficacy of this medication [1]. This small molecule is capable of reducing the itch in patients and skin manifestations, especially when paired with topical prescriptions. Seems also that oral prescription of abrocitinib can be efficacious in controlling symptoms of AD in patients more than other biological shots taken once every two weeks [2].

As a center which deals mostly with biologics and other oral prescriptions, which can prove burdensome to some patients (cyclosporine, corticosteroids), the efficacy of small molecules inhibiting the JAK/STAT pathway would be a novel therapeutic approach, for those patients that might have contraindications for biologics or prefer oral medications for their condition. At the Erasmus University Medical Center, Rotterdam, The Netherlands, the expertise with small molecules could be a great opportunity of testing first hand and see the response of patients who are prescribed these oral drugs, with a closer look on efficacy, properly measured via assessing scores such as EASI and SCORAD, and management of possible side effect and dose adjustments of patients with underlying medical conditions, which could represent a possible limitation for their prescription.

Objectives

Main goals of this fellowship

To establish a collaboration between our departments/hospitals to setup prospective research projects and exchange knowlegde regarding care for AD patients.

Main goals of this research project

Primary aim.

To collect real world evidence for the effectiveness of abrocitinib at the Erasmus MC University Medical Center in Rotterdam, the Netherlands

Secondary aims

To gain insights into the differences between the health care systems in Italy versus The Netherlands. What can we learn from these differences and how can we improve care for patients with moderate to severe AD.

Methods

Real world data on the use of biologics and JAK inhibitors is collected in the Erasmus MC IMID registy. Data from the IMID registry will be extracted, analysed and submitted for publication.

Literature

1 Vazquez M.L., Kaila N., Strohbach J.W., Trzupek J.D., Brown M.F., Flanagan M.E., Mitton-Fry M.J., Johnson T.A., TenBrink R.E., Arnold E.P., et al. Identification of N-{cis-3-[Methyl(7H-pyrrolo[2,3-d]pyrimidin-4-yl)amino]cyclobutyl}propane-1-sulfonamide (PF-04965842): A selective JAK1 clinical candidate for the treatment of autoimmune diseases. *J. Med. Chem.* 2018;61:1130–1152.

2 Perche PO, Cook MK, Feldman SR. Abrocitinib: A New FDA-Approved Drug for Moderate-to-Severe Atopic Dermatitis. Ann Pharmacother. 2022 May 19:10600280221096713.