REDACTED PROTOCOL

Name of the protocol:

Use of Omalizumab in the Treatment of Food Allergy and Anaphylaxis- A multicenter retrospective analysis

Number of the protocol:	CIGE025A2010
Version number:	1.1
Date:	Dec 2022

Principle investigator: Prof. Dr. med. [redacted]

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Background[1-10]: The treatment of anaphylaxis is based on the short-term management of acute reactions and long-term strategies to reduce the risk of further reactions. The most important measure is the allergen avoidance. This is challenging and can severely limit the quality of life of the affected patients. There is no approved therapy for the treatment of anaphylaxis in adults. omalizumab is a humanized monoclonal anti-IgE antibody, that has been approved for the treatment of chronic urticaria and allergic asthma for many years. Omalizumab exerts its action by binding to circulating IgE, reducing IgE receptor expression, and decreasing mediator release from mast cells and basophils. Omalizumab has been successfully used in numerous studies and case reports in the treatment of food and insect venom allergy and can be used as monotherapy or as adjuvant in immunotherapy for the treatment of anaphylaxis. Patients with food or insect venom anaphylaxis are treated off-label with omalizumab. In our study, available data will be collected and systematically evaluated. This analysis contributes to the development of new therapy concepts in anaphylaxis(duration of treatment, dosing intervals, clinical efficacy of omalizumab in everyday life).

Objective: The aim of this retrospective study is to collect and analyse real-life data from patients who received omalizumab for the treatment of anaphylaxis.

Primary hypothesis:

1. Omalizumab reduces the recurrence of anaphylactic reactions in patients with anaphylaxis.
2. Omalizumab leads to an improvement in the quality of life of the affected patients.

Secondary hypothesis:

1. Omalizumab results in achieving tolerance to higher amounts of the allergen.
2. Omalizumab results in less severe accidental reactions.
3. When used as an adjuvant therapy (during immunotherapy) omalizumab allows more rapid and higher doses of immunotherapy to be given.
4. When used as an adjuvant therapy (during immunotherapy) omalizumab results in better tolerance.

Primary endpoints: The number of anaphylactic reactions during treatment (over a treating period of 3-6-12-24 months).

Secondary endpoints:

1. Quality of life outcomes during treatment (over a treating period of 3-6-12-24 months)
2. Collection of accidental reactions during treatment.
3. Allergen threshold levels before and during treatment.
4. Severity of anaphylactic reactions before and during treatment..

Study population: Patients who received therapy with omalizumab for the treatment of anaphylaxis between 2002 and 2022

Study centers:

1. Allergology and Immunology, Department of Dermatology, Venereology and Allergology, Universitätsmedizin Berlin.
2. Cooperation with other centres from the Anaphylaxis Registry.

Methods: A structured survey questionnaire was developed and by means of retrospective analysis of patient records, data will be collected pseudonymised and analysed descriptively.

Survey questionnaire: the following information will be aquired in the questionnaire:

- Every patient will be assigned a subject ID (site initials following be a number). For patients included in the anaphylaxis registry, the ID will be linked and the data will be provided for analysis.
- Demographics: including sex, race and year of birth.
- Medical history: Medical history including any clinically relevant diseases or medical procedures and concomitant medication of subjects.
- Food allergy history: Details on relevant food allergy (or allergies) will be recorded. Occurrence of anaphylactic reactions will be assessed in detail.

- Diagnostics: Laboratory results including recombinant allergy diagnostics and Skin-prick-test results before treatment will be gathered. Occurrence of oral food challenges before treatment will be assessed in details.
- Treatment information: Details on relevant Omalizumab treatment, including the type of treatment, dose and interval(s) of therapy as well as safety and tolerance information, will be recorded.
- Quality of life: In order to assess quality of life a generic quality of life questionnaires (EQ-5D) as well as a disease specific quality of life questionnaires (FAQLQ) will be analysed, if data is available.

Statistics:

Retrospective study design. Data will be collected pseudonymised and every patient will be assigned a study ID. Patient data will be collected in a structured survey questionnaire from existing medical records and, if applicable, from the registry of anaphylaxis as well. The attending physicians or other medical personnel in each site will fill out the survey questionnaires. The questionnaires will be provided to the data management in Berlin and the data will be analysed descriptively.

This study is considered explorative. No formal sample size calculation has been performed.

All relevant variables will be tabulated. Categorical variables are reported using frequency and percentage, continuous variables are reported by giving descriptive measures (e.g. mean with standard deviation, or median with interquartile range).

Subgroup analyses will be performed regarding the following subgroups:

- Patients under omalizumab monotherapy
    - Patients with food allergy with one relevant allergen
    - Patients with multiple food allergies
- Patients under combined immunotherapy with omalizumab
    - Patients with food allergy with one relevant allergen
    - Patients with multiple food allergies

Documentation procedures, Data Collection & Protection

The pseudonymized patient data will be entered into an electronic password-protected database, to which only the study personnel of [redacted] have access. Furthermore, the data will be published anonymously in scientific journals. The data will be analyzed pseudonymously so that no personal reference can be established for third parties.

The re-identification list remains at the Charité and only the study director and staff assigned by him have access. The identity of the patients is protected and it is not possible for third parties to trace.

Study-relevant documents and personal data are kept at the study center for a maximum of 10 years after the end of the study and publication of the results and are subsequently disposed of in a secure manner. Collected data will be archived electronically. Access to data is restricted to authorized study personnel.

Access to data for the legally authorized investigators (third parties) for inspection for specific purposes will be granted.

The names of the patients and all other confidential information are subject to medical confidentiality, according to the European Data Protection Regulation and the provisions of the German Federal Data Protection Act (BDSG). It is assured that all data collected and stored about the study participant will be treated confidentially.

References:

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