JPP August: Omalizumab

Day 1: Technological advances allowed the development of a humanised anti-IgE monoclonal antibody (MAB) capable of neutralising IgE action for the management of allergic asthma & chronic urticaria. [#omalizumab](https://twitter.com/search?q=%23omalizumab" \t "_blank) is 95% human & 5% murine. Licensed EMA 2005

Day 2: [#omalizumab](https://twitter.com/search?q=%23omalizumab) is used in people ≥ 6years for moderate to severe IgE mediated allergic asthma, with frequent symptoms/exacerbations despite optimum therapy & proof of 1 or more aeroallergen. Usually added into other therapies

Day 3: [#omalizumab](https://twitter.com/search?q=%23omalizumab) s.c injection(s) dosing is based on serum IgE levels & body weight (kg); range 75-600mg every 2-4 weeks. UK license also for idiopathic chronic urticaria ≥12 years 300mg once/month for 6 months

Day 4:[#omalizumab](https://twitter.com/search?q=%23omalizumab) kinetics; s.c injection gives moderate absorption (1 week to cmax) & 62% bioavailability. Breakdown is via IgE clearance processes i.e recycled & degraded by liver phagocytic cells (reticuloendothelial system) & endothelial cells. T½ 24-26 days, so can take 12-16 weeks to work. Check efficacy at this point

Day 5: [#omalizumab](https://twitter.com/search?q=%23omalizumab) blocks the IgE domain which binds to the Fc receptors on mast cells, basophils & other inflammatory cells. This lowers IgE levels, down-regulates IgE receptor expression on allergic cells & decreases mediator release; the combination of effects reduces allergic symptoms

Day 6: [#omalizumab](https://twitter.com/search?q=%23omalizumab) common adverse drug events include headaches, abdominal pain, pruritus, arthralgia & pyrexia (children). Rare/serious: anaphylaxis, serum sickness, angioedema, SLE (NOT exhaustive). There are no drug-drug interactions stated in the SPC or BNF. [#omalizumab](https://twitter.com/search?q=%23omalizumab) may attenuate the immunological response to helminth infections &/or treatment for helminth infections

Day 7: The optimum duration for [#omalizumab](https://twitter.com/search?q=%23omalizumab) use is not established for asthma, but the treatment can continue if working

CPD

CPD: in addition to the tweets, read the BNF treatment summary on antihistamines, allergen immunotherapy and allergic emergencies, as well as the monograph on omalizumab. Another useful source is the Summary of Product Characteristics for omalizumab– see links below

<https://bnf.nice.org.uk/treatment-summaries/antihistamines-allergen-immunotherapy-and-allergic-emergencies/>

<https://bnf.nice.org.uk/drugs/omalizumab/>

<https://www.medicines.org.uk/emc/product/5327/smpc#gref>

CPD questions (most but not all answers will be in the tweets). There is only one correct answer per question

1. Omalizimab is an immunoglobulin found naturally in the body

TRUE or FALSE

1. The half-life for omalizumab is very long, which means the drug can take months to work

TRUE or FALSE

1. Omaluzimab is a fully humanised monoclonal antibody

TRUE or FALSE

1. Omalizumab is associated with multiple drug-drug interactions

TRUE or FALSE

1. Omalizumab is designed to bind to many immunogloblulins, but its main target is IgE

TRUE or FALSE

1. Which of the following is TRUE about omalizumab?
2. It is licensed in the UK for use in allergic rhinitis
3. It is a first-line drug for acute asthma if very severe
4. It is given by i.m injection
5. It is given by s.c injection
6. Dosing for omalizumab is based on age and weight

TRUE or FALSE

1. Which of the following is TRUE?
2. Omalizumab should not be used with anti-muscarinic inhalers
3. Omalizumab down-regulates the allergic cascade
4. The drug works rapidly after giving the injection
5. Omalizumab is known to be safe in pregnancy
6. People with asthma can come off all their other asthma medications once they start omalizumab

TRUE or FALSE

1. Which pair are common adverse drug events for omalizumab?
2. Alopecia and cough
3. SLE and myalgia
4. Hypersensitive reactions and weight gain
5. Headache and skin reactions