Upadacitinib factsheet

Upadacitinib, also known as Rinvoq®, is a treatment for moderate to severe atopic eczema (also known as atopic dermatitis) in adults and children aged 12 years and older. It's a type of drug known as a Janus kinase (JAK) inhibitor. Upadacitinib is taken orally, as a tablet. It calms the immune system and reduces eczema inflammation (red or darker areas of active eczema) and itch.

How does it work?

JAK-inhibitors are named after the messaging pathway that they block within cells. In eczema, there is excessive inflammation in the skin. Multiple small signals, called cytokines, drive that inflammation. Cytokines promote inflammation by attaching to receptors on cells, like a key fitting into a lock. Once attached, they trigger the production of even more cytokines resulting in worsening eczema symptoms. The JAK pathway is crucial in this process and forms an important target that can be blocked by drugs to reduce the unwanted excessive inflammation. There are different kinases; JAK1, JAK2, JAK3 and TYK2. Upadacitinib targets JAK1 and works by blocking the activity of specific pathways within the cells, which can cause the symptoms of atopic eczema.

What has the research shown?

Clinical trials of upadacitinib have shown that it can quickly improve eczema severity and itch. In the Measure Up 1 and Measure Up 2 clinical trials, adults and adolescents with moderate to severe atopic eczema took either upadacitinib or placebo (a dummy drug) until week 16, at which point the participants on placebo were re-allocated to either a 15 mg or 30 mg dose of upadacitinib.

At week 16 of these trials, upadacitinib was found to be more effective than placebo at reducing the amount of body area affected by eczema, itch and skin pain. It was also found to have a beneficial impact on quality of life. Improvements in itch were seen as early as 2 days after the first dose of upadacitinib. The positive effects of the treatment that were observed after 16 weeks continued to be seen up to fifty-two weeks (1 year).

These results were echoed in another research study (AD Up), where upadacitinib used in combination with topical steroids was compared to placebo used with topical steroids. In this study, participants on upadacitinib stopped using topical steroids sooner than those who were given a placebo, showing that upadacitinib has the potential to reduce the need for topical steroids.

Is it available on the NHS?

Yes. Upadacitinib was approved for routine use in adults and children aged 12 years and older in England, Wales, Scotland and Northern Ireland in 2022. It can only be prescribed and monitored by a dermatologist, so you need to be under the care of a dermatology team to access this treatment. Ask your GP for a dermatology referral if needed.

Who is it for?

Upadacitinib is licensed for the treatment of adults and children aged 12 years and older with moderate to severe atopic eczema who are possible candidates for systemic medication (these are medications that affect the whole body, rather than being localised to a specific area or organ). The more severe the eczema, the more likely you are to be considered for a newer therapy such as upadacitinib.

To be eligible for upadacitinib, you will usually need to have tried at least one systemic immunosuppressive medication (azathioprine, ciclosporin, methotrexate or mycophenolate mofetil) and this needs to have not worked effectively for you. You may also be eligible for upadacitinib if you are unable to tolerate the immunosuppressive medications listed above, or if they are not suitable for you.

If you're aged 65 or older, have an already increased risk of major cardiovascular problems or cancer, or if you smoke or have smoked in the past for a long time, your doctor will only offer you treatment with upadacitinib or another JAK-inhibitor if nothing else is suitable for you. This is because these factors may put you at greater risk of developing certain serious side effects while taking upadacitinib (see 'What are the risks of upadacitinib?' below).

How do I go about getting it?

If you think you might be eligible for upadacitinib, speak to your dermatologist about the possibility of trying it. If you're not currently under the care of a dermatologist, ask your GP for a dermatology referral. You will need to see a specialist dermatologist in a hospital to access this treatment.

How is it taken?

Upadacitinib is taken as a tablet once a day – with or without food, at any time of the day. It comes in 15 mg and 30 mg tablets. Adults will be prescribed a dose of either 15 mg or 30 mg. This daily dose may be increased or decreased depending on how well upadacitinib works for the adult taking it. For children aged 12 years and older, and people aged 65 and older, the recommended dose is 15 mg once daily.

If you take more than the recommended dose by mistake, contact your doctor straight away. If you forget to take it for a day, carry on with the usual dose the next day – do not take a double dose to make up for the forgotten tablet.

Before you start upadacitinib, you will have a full medical assessment and blood tests to check for a low red blood cell count (anaemia), a low white blood cell count (neutropaenia or lymphopaenia), high blood fat (cholesterol) and high levels of liver enzymes. During treatment you will have regular blood test monitoring to check your full blood count, liver function and lipids. If you have any abnormal results, your treatment with upadacitinib will be reviewed, and may be discontinued.

Your doctor will also need to check whether you've ever been exposed to tuberculosis (TB). If the bacteria that cause TB are still present in the body, you may need a course of treatment for this before starting upadacitinib.

How long do you take it for?

Upadacitinib is an ongoing treatment rather than a treatment that is used for a fixed amount of time. If a patient's eczema has not responded adequately to upadacitinib after 12 weeks of starting the treatment, it may be stopped.

Can people taking upadacitinib still use emollients and topical steroids?

Yes, people taking upadacitinib will be expected to use emollients and topical steroids to manage their eczema alongside upadacitinib. A clinical trial has shown that using topical steroids in combination with upadacitinib to treat eczema flares has a positive effect.

Can I take it while pregnant or breastfeeding?

Upadacitinib is not recommended if you're pregnant, planning to become pregnant or breastfeeding. If you could become pregnant, you should use effective contraception while being treated with upadacitinib and for at least four weeks after your last dose of upadacitinib. It isn't known whether upadacitinib affects fertility.

What are the risks of upadacitinib?

Since upadacitinib affects the immune system, it can make you more likely to pick up non-serious infections, including throat and nose infections. Other common side effects include acne, cold sores, headaches, coughs, feeling sick, folliculitis, abdominal pain, low number of neutrophils (this can make the body more susceptible to infections), fever, influenza, shingles and elevation in blood creatine phosphokinase (CPK) level. CPK is an enzyme found mainly in the muscles, heart and brain. It plays an important role in energy production and muscle contraction.

In clinical trials for rheumatoid arthritis, there was an increased incidence of major cardiovascular problems (such as heart attack or stroke), cancer, blood clots in the lungs and in the deep veins of the body, serious infections and death in patients with certain risk factors who were taking JAK-inhibitors compared with the group taking a comparable drug (a tumour necrosis factor (TNF)-alpha inhibitor). Following this, the Medicines and Healthcare products Regulatory Agency has issued a warning for all JAK-inhibitors, not just the one used in the clinical trials for rheumatoid arthritis (tofacitinib).

The risk of experiencing these serious side effects is greater if you are aged 65 or older, have an already increased risk of major cardiovascular problems or cancer, or if you smoke or have smoked in the past for a long time. People with these risk factors will not be offered upadacitinib unless there is no alternative.

People taking upadacitinib are advised to examine their skin periodically and let their doctor or nurse know if they notice any new growths or changes to moles (including itching, shape and discharge, which might not be as obvious on darker skin tones). These might need to be investigated for possible skin cancer.

Avoid food or drink containing grapefruit during treatment with upadacitinib, as these may increase the risk of side effects by increasing the amount of upadacitinib in your body.

Let your doctor or nurse know if you experience any side effects. It's particularly important that you seek urgent medical advice if you experience any of the following:

- a painful skin rash with blisters
- shortness of breath, fever and a cough with mucus
- rash (hives), trouble breathing, or swelling of your lips, tongue, or throat
- severe stomach pain, especially accompanied by fever, nausea and vomiting
- chest pain or tightness (which may spread to arms, jaw, neck and back), shortness of breath, cold sweats, light-headedness, sudden dizziness, weakness in arms and legs or slurred speech.

Can I have vaccinations while on upadacitinib?

It's best to discuss vaccinations with your dermatology team, including any vaccines you may need if you're planning to travel abroad. If possible, have any vaccines you may need for travelling abroad, or that you're due to have, before starting upadacitinib.

It's recommended that you avoid live vaccines when taking upadacitinib. These include measles, mumps and rubella (MMR), tuberculosis (BCG), yellow fever and shingles.

Seek advice from your dermatology team about pneumococcal vaccines, which help protect against pneumonia, and yearly flu vaccines.

Further information

Electronic Medicines Compendium: Rinvoq®

https://www.medicines.org.uk/emc/search?q=upadacitinib

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National Eczema Society is the UK charity for everyone affected by eczema. We help support people with eczema, providing information and advice, which we deliver through our website, social media, campaigns, publications and nurse-supported Helpline. We also provide a voice for people with eczema, raising awareness of the condition, supporting research into new treatments and campaigning for better medical care.

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