Ixifi® (infliximab-qbtx) – New biosimilar approval

- On December 13, 2017, the FDA announced the approval of Ixifi (infliximab-qbtx), Pfizer's biosimilar to Janssen Biotech's Remicade® (infliximab).
    - Ixifi is the third FDA-approved biosimilar to Remicade. The first two were Inflectra™ and Renflexis™.
- Ixifi, Inflectra, Renflexis, and Remicade share the following indications:
    - **Crohn's disease (CD):** for reducing signs and symptoms and inducing and maintaining clinical remission in adult patients with moderately to severely active CD who have had an inadequate response to conventional therapy; and for reducing the number of draining enterocutaneous and rectovaginal fistulas and maintaining fistula closure in adult patients with fistulizing CD.
    - **Pediatric CD:** for reducing signs and symptoms and inducing and maintaining clinical remission in pediatric patients ≥ 6 years of age with moderately to severely active CD who have had an inadequate response to conventional therapy.
    - **Ulcerative colitis (UC):** for reducing signs and symptoms, inducing and maintaining clinical remission and mucosal healing, and eliminating corticosteroid use in adult patients with moderately to severely active UC who have had an inadequate response to conventional therapy.
    - **Rheumatoid arthritis (RA):** in combination with methotrexate for reducing signs and symptoms, inhibiting the progression of structural damage, and improving physical function in patients with moderately to severely active RA.
    - **Ankylosing spondylitis (AS):** for reducing signs and symptoms in patients with active AS.
    - **Psoriatic arthritis (PsA):** for reducing signs and symptoms of active arthritis, inhibiting the progression of structural damage, and improving physical function in patients with PsA.
    - **Plaque psoriasis (PsO):** for the treatment of adult patients with chronic severe (i.e., extensive and/or disabling) PsO who are candidates for systemic therapy and when other systemic therapies are medically less appropriate. These products should only be administered to patients who will be closely monitored and have regular follow-up visits with a physician.
- Remicade has the additional indication for use in pediatric UC, for reducing signs and symptoms and inducing and maintaining clinical remission in pediatric patients 6 years of age and older with moderately to severely active UC who have had an inadequate response to conventional therapy.
- A biosimilar product is a biological agent that is considered highly similar to an already approved biological drug, known as the reference product. Biological products are generally derived from a living organism and can come from many sources, including humans, animals, microorganisms or yeast.
- A biosimilar product must show no clinically meaningful differences in terms of safety and effectiveness from the reference product. Only minor differences in clinically inactive components are allowable in biosimilar products.
    - In addition, a biosimilar product may only be approved for the indication(s) and condition(s) that have been FDA approved for the reference product, and must have the same mechanism(s) of action, route(s) of administration, dosage form(s) and strength(s) as the reference product.
    - The facilities where biosimilars are manufactured must also meet the FDA's standards.

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- The approval of Ixifi was based on review of evidence that included structural and functional characterization, immunogenicity information and other clinical safety and effectiveness data that demonstrates Ixifi is biosimilar to Remicade. Approval data also included a phase 3 clinical study that demonstrated improvements in RA symptoms in patients treated with Ixifi plus methotrexate or Remicade plus methotrexate.

- Ixifi has been approved as biosimilar to Remicade, ***not*** as an interchangeable product.

- Similar to Remicade, Inflectra, and Renflexis, Ixifi carries a boxed warning regarding the risk for serious infections and malignancy.

- Ixifi is contraindicated in doses > 5 mg/kg in patients with moderate to severe heart failure, and should not be re-administered to patients who have experienced a severe hypersensitivity reaction to infliximab products or in patients with known hypersensitivity to inactive components of the product or to any murine proteins.

- Additional warnings and precautions for Ixifi include hepatitis B virus reactivation, hepatotoxicity, patients with heart failure, hematologic reactions, cardiovascular and cerebrovascular reactions during and after infusion, neurologic reactions, use with Kineret® (anakinra), use with Orencia® (abatacept), concurrent administration with other biological therapeutics, switching between biological disease-modifying antirheumatic drugs, autoimmunity, and live vaccines/therapeutic infectious agents.

- The most common adverse reactions (> 10%) with Ixifi use were infections (eg, upper respiratory, sinusitis, and pharyngitis), infusion-related reactions, headache, and abdominal pain.

- The recommended dose of Ixifi administered as an intravenous infusion is as follows:

Indication	Recommended Dose
Adult CD	5 mg/kg at 0, 2, and 6 weeks, then every 8 weeks. Some adult patients who initially respond then lose their response, consideration may be given to treatment with 10 mg/kg.
Pediatric CD, UC, PsA, and PsO	5 mg/kg at 0, 2 and 6 weeks followed by a maintenance regimen of 5 mg/kg every 8 weeks.
RA	In conjunction with methotrexate, 3 mg/kg at 0, 2, and 6 weeks, then every 8 weeks. For patients who have an incomplete response, consideration may be given to increasing the dose up to 10 mg/kg or as often as every 4 weeks.
AS	5 mg/kg at 0, 2, and 6 weeks, then every 6 weeks.

- Pfizer's launch plans for Ixifi are pending. Ixifi will be available as a 100 mg/15 mL vial for intravenous infusion.