

Abatacept Pricey, but Effective

by Amy Reyes

The approval of abatacept (Orencia/Bristol-Myers Squibb) for psoriatic arthritis (PsA) earlier this month by the FDA offers a new treatment option for patients who are struggling to keep the disease under control.

Abatacept is a T-cell inhibitor and is the first of its kind for PsA. It has proven to be a successful treatment option, but it is also one of the most expensive treatments for PsA.

The last major advancement in new treatments for PsA was over 10 years ago with the development of TNF inhibitors, which were groundbreaking at the time. “A significant proportion of patients achieved clinical responses with around 40-50% reaching minimal disease activity states over time. However, relapse and/or loss of response is common and in a disease of relatively young age of onset requiring treatment over decades, there remains considerable unmet need,” wrote Iain B. McInnes of the University of Glasgow in the March 8, 2016 online issue of [Clinical and Experimental Rheumatology](#).

T-cell inhibitors like abatacept have the potential to meet that unmet need for patients for whom TNF inhibitors or other biologics are not effective, or for patients who cannot tolerate adverse effects associated with other treatments.

However, the cost may present some challenges for patients seeking access to this new treatment. In this slideshow, we summarize how abatacept works, its adverse effects, how it differs from other biologics, its cost and other factors you should know about abatacept for psoriatic arthritis.

30-minute
intravenous (IV)
infusion¹²



Once-weekly
subcutaneous (SC)
self-injection¹²



Once-weekly
ClickJect™
Autoinjector¹²



Abatacept (©Orencia, Bristol-Myers Squibb)

Abatacept for PsA

Here's what you need to know

Abatacept indications

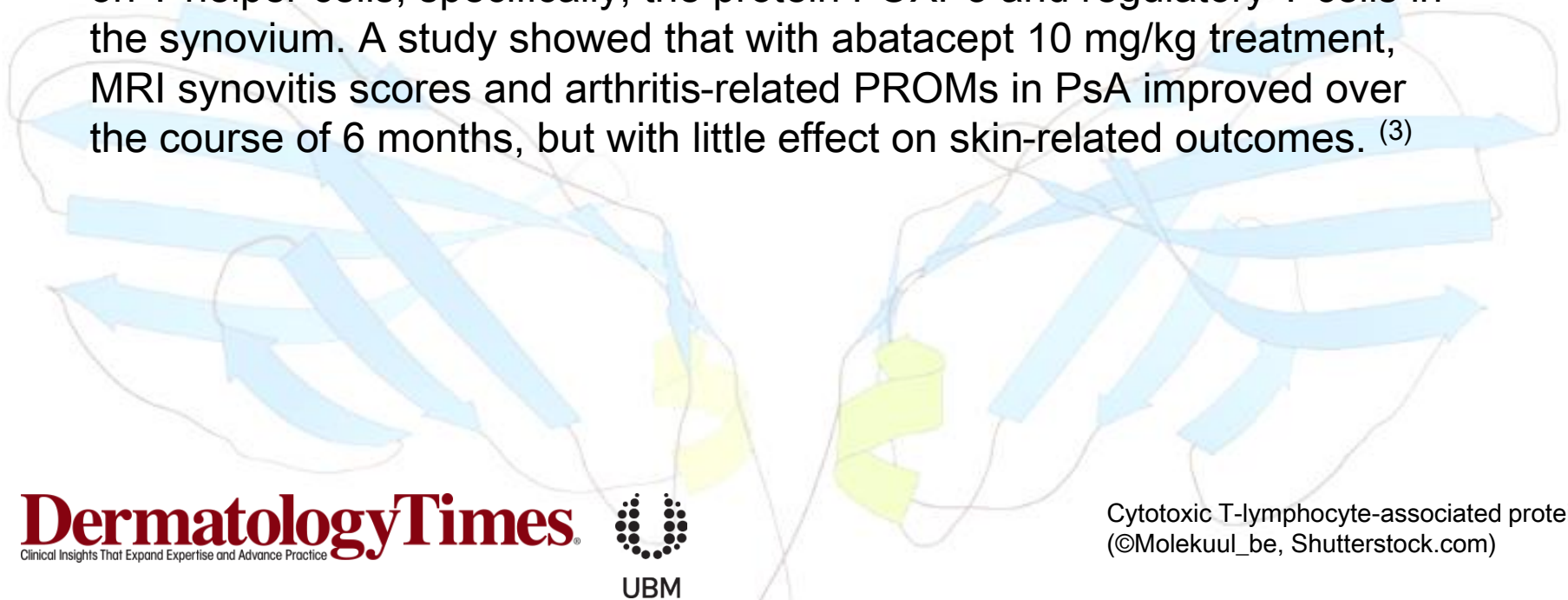
- PsA in adults with active disease of both the skin and musculoskeletal system
- Rheumatoid arthritis
- Juvenile idiopathic arthritis



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How does abatacept work?

- Abatacept, which is linked to IgG1, selectively binds to CD80/86 on accessory cells that block CD28 signals on T-cells. This, in turn, inhibits T-cell activation and the production of inflammatory cytokines (TNF α , INF γ , IL-2 and IL-6) that are associated with the pathogenesis psoriatic arthritis.⁽³⁾
- Abatacept works by reducing the immunohistological expression of CD4 on T helper cells, specifically, the protein FOXP3 and regulatory T cells in the synovium. A study showed that with abatacept 10 mg/kg treatment, MRI synovitis scores and arthritis-related PROMs in PsA improved over the course of 6 months, but with little effect on skin-related outcomes. ⁽³⁾



How does abatacept differ from other biologics?

- Abatacept is approved and available in both intravenous and subcutaneous injection forms.
- Intravenous therapy is associated with less immunogenicity than subcutaneous administration of abatacept.⁽²⁾
- A study assessing the effect of abatacept on synovial and psoriatic skin tissue found a reduction in Treg expression in the synovium, but not in psoriatic lesions. “This suggests abnormal Treg function in PsA with differential suppressive capacity in the synovium compared to the lesional skin.”⁽³⁾

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How should abatacept be prescribed?

- It should not be administered concomitantly with TNF antagonists.
- It is not recommended for use concomitantly with other biologic rheumatoid arthritis therapy, such as anakinra. ⁽⁴⁾

Safety profile

- The safety profile for abatacept in PsA is similar to its safety profile for rheumatoid arthritis, which includes serious infections (3%) and malignancies (1.3%).
- Headache, upper respiratory tract infection, nasopharyngitis and nausea were the most commonly reported adverse events ($\geq 10\%$) in the first clinical trial.
- In the second trial, the most common adverse reactions ($\geq 5\%$) were nasopharyngitis, upper respiratory tract infection and bronchitis.⁽⁵⁾

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How did abatacept perform in clinical trials?

Abatacept was tested in two randomized, double-blind, placebo-controlled trials of adults with PsA. ⁽¹⁾

- A phase two, dose-ranging study of abatacept in PsA patients previously who were prescribed a DMARD (including TNFi treatment), showed that 48% of patients receiving a dose of 10mg/kg intravenously every 4 weeks, achieved ACR20 or greater at six months compared to 19% placebo. 45% of patients achieved HAQ-DI at 6 months compared to 19% placebo.
- A 2017 phase three study published in the Annals of the Rheumatic Diseases patients were randomized and blinded to weekly subcutaneous abatacept 125 mg (n=213) or placebo (n=211) for 24 weeks, followed by open-label subcutaneous abatacept. Abatacept significantly increased ACR20 response versus placebo at week 24 (39.4% vs 22.3%). Efficacy was maintained or improved up to week 52 showing improvements in musculoskeletal manifestations, but with modest impact on psoriasis lesions.

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Rates of discontinuation

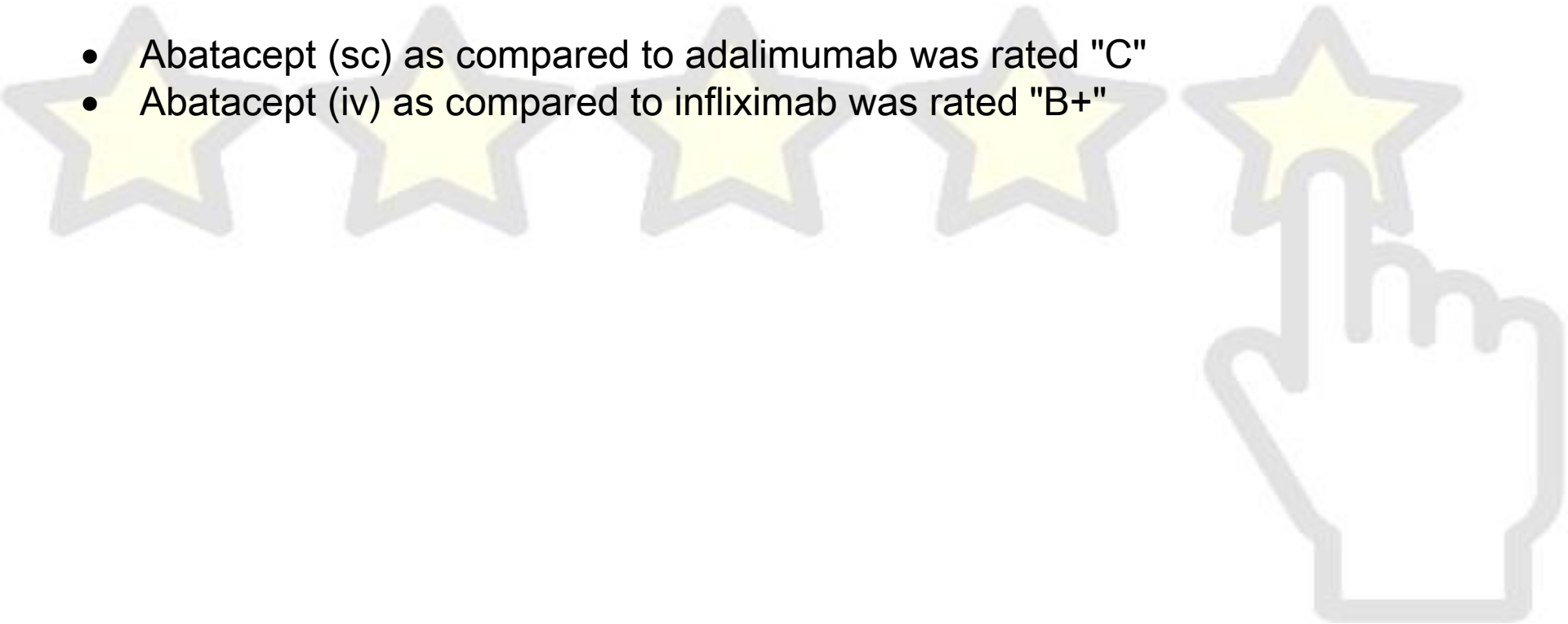
- In RA, the AMPLE trial showed that abatacept had a lower rate of discontinuation due to adverse events at year 2 compared with adalimumab.
- In a separate trial comparing infliximab to abatacept, the incidence of serious adverse events, discontinuation due to adverse events and infusion reactions were lower with abatacept as compared to infliximab.

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Abatacept's ICER rating

A March 2017 report by the Institute for Clinical and Economic Review (ICER) rated the clinical effectiveness of abatacept for rheumatoid arthritis as follows:

- Abatacept (sc) as compared to adalimumab was rated "C"
- Abatacept (iv) as compared to infliximab was rated "B+"



Wholesale acquisition costs (WAC) — Top selling biologics



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- **Adalimumab (Humira, AbbVie):** WAC costs for subcutaneous, self-injection \$2,221 per 40 mg syringe; net price per unit, \$1,554; annual drug cost \$40,415; WAC discount needed to reach threshold 55-69%
- **Infliximab (Remicade, Johnson & Johnson/Merck):** WAC costs for intravenous infusion per 100 mg, \$1,168; net price per unit, \$817; annual drug cost \$28,906; WAC discount needed to reach threshold 41-81%.
- **Etanercept (Enbrel, Pfizer/Amgen):** WAC cost for subcutaneous, self-injection \$1,111 per 0.98 mL of a 50 mg/mL syringe; net price per unit \$777; annual drug cost \$40,422; WAC discount needed to reach threshold 50-66%

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The cost of abatacept



- **Abatacept, 250 mg intravenous.** Wholesale Acquisition Cost (WAC) per unit \$987; net price per unit \$691; annual drug cost \$27,637; unit price needed to achieve \$50,000 per quality-adjusted life year (QALY), \$193.46; WAC discount needed to reach threshold 45-80%
- **Abatacept , 125 mg subcutaneous.** Wholesale Acquisition Cost (WAC) per unit \$957; net price per unit \$814; annual drug cost \$42,306; unit price needed to achieve \$50,000 per quality-adjusted life year (QALY), \$203.39; WAC discount needed to reach threshold 43-79%

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Citations

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3. Agnes Szentpetery, Eric Heffernan, Martina Gogarty, et al. "Abatacept reduces synovial regulatory T-cell expression in patients with psoriatic arthritis." [Arthritis Research and Therapy](#). July 5, 2017. DOI: 10.1186/s13075-017-1364-3
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5. [Bristol-Myers Squibb](#) press release.
6. "Targeted Immune Modulators for Rheumatoid Arthritis: Effectiveness & Value Evidence Report," [Institute for Clinical and Economic Review](#) (ICER)," April 7, 2017
7. Iain B. McInnes. "Psoriatic arthritis: embracing pathogenetic and clinical heterogeneity?" [Clinical and Experimental Rheumatology](#). March 8, 2016. Vol.34, N°4,Suppl.98 - PI 0009, PF 0011