OCCP Ohio College of Clinical Pharmacy

VITALS

THE OFFICIAL NEWSLETTER FOR OCCP

SPRING 2023, ISSUE 18

Message from the President

OCCP Members,

It is an absolute privilege to serve as OCCP President this year and I look forward to working for and with the organization throughout the year. I am very excited to be able to continue our in person meetings. Our planning committee has been hard at work preparing for our Spring Meeting, which will be held on May 19, 2023 at the Tri-C Corporate College.

Last year, we expanded our scholarship opportunities for travel/meeting attendance funding for actively participating members, so please be on the lookout for details about how to apply for these. Recently, the University of Toledo SCCP Chapter hosted a Leadership Summit for the Ohio Colleges of Pharmacy, which I was fortunate enough to participate in. I look forward to building stronger relationships with our state's future pharmacists.

If you have not already done so, please remember to renew your membership dues for 2023 and consider volunteering for one of our many committees. Our organization's success is fully dependent on members, like yourself, getting involved and engaged with our organization. More information on our various committees can be found on our website and we will have sign-up sheets at the Spring Meeting, where we will be available to discuss further details about the responsibilities and commitments of each committee.

Thank you all for your continued dedication to making OCCP a success!

Molly Amos

Spring Meeting

Friday, May 19th
Tri-C East Corporate College

Join us for another year of amazing programming including CE on pharmacy law and medical safety, pharmacy trainee and preceptor topics, and many clinical pearl session!

Registration Costs:

- Students - Free
- Residents - $85
- OCCP Members - $95
- Non-members - $105
- Registration + 1-year membership - $135

OCCP Leadership

Molly Amos, PharmD, BCACP
President
Bethany Crouse, PharmD, BCCCP
President-Elect
Steering Committee Chair
Jessica Hoover, PharmD, BCPPS
Immediate Past President
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Planning Committee Co-Chair
Katie Knudsen, PharmD, BCPS
Planning Committee Co-Chair
Bhavin Mistry, PharmD, BCIDP, BCPS
Planning Committee Co-Chair
Joe Guidos, PharmD, BCPS, BCCCP
Secretary/Treasurer
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Jessica Hoover, PharmD, BCPPS
Nominations Committee Chair
Ukwen Akpoji, PharmD, BCPS, BCIDP
Advocacy Committee Co-Chair
Alexander Hoffman, PharmD, BCPS, CDCES
Advocacy Committee Co-Chair
Julia Kuroski, PharmD, BCCCP
Communications Committee Co-Chair
Zach Krauss, MBA
Communications Committee Co-Chair
Newsletter Editor

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Call for Committee Membership

Are you interested in getting more involved with OCCP? Joining one of our committees is a great way to connect with fellow OCCP members, network with pharmacists across Ohio, and contribute the future direction of the organization.

Steering Committee - 1-3 meetings per year (~60-minute conference calls)
- Determines organizational goals and priorities
- Coordinated annual member engagement survey
- Oversees other organizational committees

Planning Committee - 8-9 meetings per year (~30-minute conference calls)

We are currently recruiting for 2-3 Planning Committee co-chairs for Fall 2023; please contact Amanda Mertz to learn more!
- Determines semiannual meeting dates and location
- Coordinates continuing education speakers and student/resident presentations for meetings
- Organizes residency showcase and other trainee networking events

Membership Committee - 2-3 meetings per year (~30-minute conference calls)
- Coordinates semiannual membership drive
- Assist other committees with membership engagement
- Facilitates member networking events

Nominations Committee - 1 meeting per year (~60-minute conference calls)
- Review applications for various OCCP awards and scholarships
- Promotes Pharmacist of the Year, Student Travel scholarships, and BPS awards

Communications Committee - no meetings, work coordinated via email

We are currently recruiting for 1 or 2 co-chair positions to join the current committee chair. Please contact Zach Krauss to learn more!
- Review articles submitted to semiannual Vitals newsletter
- Coordinate social media content
- Maintain OCCP website

Advocacy Committee - 4 meetings per year (~60-minute conference calls)
- Coordinate Advocacy Symposium
- Collaborate with OPA and OSHP on current legislative efforts
- Inform members of current legislative initiatives

Trainee Taskforce - 3-4 meetings per year (~60-minute conference calls)

We are currently recruiting for a diverse group of students, residents, and pharmacists from across the state of Ohio to serve on this committee! Please contact Molly Amos or Bethany Crouse to learn more!
- Promote student and resident engagement
- Coordinate student- and resident-focused programming and networking events
- Provide student- and resident-focused feedback to other committees/charges

You can sign up to join a committee on our website (OCCP Committees) or contact any of the committee chairs on page 1 to learn more.

Planning Committee Update

The Planning Committee is excited to see you at the upcoming OCCP Spring Meeting on Friday, May 19th at Tri-C Corporate College East. We look forward to hearing from our featured Continuing Education speakers Jodi Dreiling, PharmD, BCPS, BCCCP, BCMAS on potential options for career transitions for clinical pharmacists and Katie Stabi, PharmD, BCPS on a review of Ohio Law.
We are actively looking for two to three individuals interested in transitioning into the role of Planning Committee co-chair over the next 1-2 years. We have found that the best way to learn how to plan meetings is to get hands on experience. New chairs would shadow the process of planning the Fall 2023 and Spring 2024 meeting prior to taking the reins.
Thank you in advance to everyone who has volunteered to help facilitate and moderate presentations for the upcoming meeting. We greatly value our committee members and are always looking to expand the ranks of our committee. Consider joining the Planning Committee and reach out to us with any interest.

Thank you!
Amanda Mertz, PharmD, BCGP
Katie Knudsen, PharmD, BCPS
Bhavin Mistry, PharmD, BCIDP, BCPS



Membership Committee Update

The OCCP Mentorship Program has been going smoothly so far; thank you to everyone who signed up to participate. A survey link was sent to all OCCP members as well as university SCCP chapters with a deadline of 9/30/22. Anyone still interested in participating in the OCCP Mentorship Program should contact the membership committee Co-Chairs. A new survey will be sent out in the fall of 2023 to create new pairs of mentors/mentees.

Thank you,

Rachel Passe
Joe Guidos


Advocacy Committee Update

We'd like to thank Katie McMillan for her leadership as Advocacy Co-Chair over the past 4 years, notably for her efforts in organizing our biennial Advocacy Forums through virtual (2020) and in-person (2022) platforms. She will remain on the committee as a member while our longstanding pharmacy advocate, Alex Hoffman, will assume the role as Advocacy Committee Co-chair. Welcome Alex!
Advocacy Efforts:

- *Ohio Pharmacist Consult Agreement Survey*
  - *Survey draft has been approved by OCCP Executive Leadership for planned submission to NEOMED IRB Committee for review*
  - *Goal: Collect anonymous responses from Ohio health system leaders and pharmacy societies (OHA, OPA, OSHP, OCCP) to understand the different pharmacy activities permitted in practice settings across Ohio*
- *Ohio HB 80 (135th General Assembly):*
  - *Bill to amend pharmacist activities (Primary Sponsor: P. Scott Lipps - District 55)*
  - *Addresses "Test-and-treat" pharmacy services for CLIA-approved testing for COVID-19, influenza, and strep throat*
  - *Thank you to the MetroHealth Pharmacy Residents for drafting an FAQ document to inform on the intent of this bill and its effect on pharmacy practice statewide!*
- *H.R. 1770 Equitable Community Access to Pharmacist Services (ECAPS) Act (introduced 3/23/23)*
  - *Click here to draft APhA's pre-written, editable advocacy letter to your Congressperson!*
  - *Bipartisan Federal legislation introduced to HoR with support from 190 organizations, including ASHP and APhA*
  - *Would provide payment for COVID-19, strep, influenza, or RSV-related pharmacist services (testing, treatment, or vaccination) under Medicare Part B*
  - *Ensure pharmacists can continue to protect vulnerable senior communities*
- *ACCP Advocating for Coverage of Pharmacists' Comprehensive Medication Management services in FY2024 Budget Request to Congress*

Thank you!
Ukwen Akpoji, PharmD, BCPS, BCIDP
Alexander R. Hoffman, PharmD, MEd, BCPS, CDCES


Commuications Committee Update

Thank you so much to all those who submitted articles for the Spring 2023 newsletter. We are so grateful to the members of the committee who helped with the review process this year, we couldn't produce the newsletter without them! Have an interest in submitting an article or helping to review articles for upcoming newsletters? Contact Zach Krauss (zacharykrauss@cedarville.edu), or submit an article via our website (occpweb.org). Requirements include a maximum of around 500 words, a clinically relevant topic, and at least one author is an OCCP pharmacist member.

Follow us on our social media pages to stay up to date with all OCCP activities:

- Facebook: Ohio College of Clinical Pharmacy
- Instagram: _OCCP

If you have general questions about your account or the OCCP website, please contact Julia Kuroski (kuroskj@ccf.org) or through the website at occpweb.org/contact.


Thank you!
Julia Kuroski, PharmD, BCCCP
Zach Krauss, PharmD Candidate 2023

Steering Committee Update

The Steering Committee is charged with determining the goals and future direction of OCCP. We are actively analyzing the results of the 2023 Engagement Survey to ensure OCCP programming and initiatives are meeting the needs of our membership.
Our goals for 2023-2024 include:
Expanding OCCP membership, specifically a diverse representation of the entire state of Ohio
Increasing member engagement in committees and developing incentives to encourage active participation
Improving trainee-focused activities to encourage active involvement and support trainees in a lifelong commitment to continuing education and professional engagement
We are always looking for new members to join the Steering Committee. If you would like to have a role in determining the future direction of the organization, we would love to have you involved! Please don't hesitate to contact me to learn more about OCCP or how you can become more involved.

Thank you,
Bethany Crouse
President-Elect

Nominations Committee Update

As a reminder, the nominations committee would like to congratulate Zach Krauss and Alana Knapke for winning the OCCP Student Travel Award for the 2022 ACCP Annual Meeting held in San Francisco, California.

As a reminder, the Student Travel Award was established to help with the cost of attending the ACCP annual meeting. This year the meeting will take place in Dallas, Texas, and the opportunity to apply for this award will be opening up soon and will be available for all student OCCP members. If you know anyone who would be interested in these honors please direct them to our website where more information will be posted soon. Lastly, we are in need of a new nominations committee chair. If you, or someone you know, would be interested in leading this exciting group please email me at hooverj4@ccf.org for more information!

Thank you,

Jessica Hoover

New Drug Update

Leqembi™ (lecanemab)

Sabrina Fekieh, PharmD candidate, Northeast Ohio Medical University, class of 2024
Patrick J. Gallegos, PharmD, BCPS, Clinical Pharmacy Specialist of IM, CCAG, Associate Professor, NEOMED

Background:

As of January 1st, 2023, the FDA approved Leqembi (lecanemab-irmb) via the accelerated approval pathway for the treatment Alzheimer's disease (AD) in patients in the early stages. Alzheimer's disease is an irreversible progressive brain disorder affecting more than 6.5 million Americans. It slowly destroys memory and thinking skills and eventually the ability to perform simple tasks. The specific causes of AD are not understood; however, it is characterized as changes in the brain, including amyloid beta plaques and neurofibrillary. Currently, there are no treatments that cure AD but treatments that slow symptom progression.[1,2] Lecanemab is a humanized monoclonal antibody directed against aggregated soluble and insoluble amyloid beta proteins. It is a disease-modifying agent that can change the underlying pathophysiology of AD. It reduces amyloid beta plaques, the accumulation of which is a pathophysiological feature of AD.[1,2]

Approval of lecanemab:

The phase II randomized, double-blind placebo-controlled trial (NCT01767311) results supported the accelerated approval of lecanemab. This trial assessed the safety and efficacy of lecanemab. The primary endpoint was Bayesian analysis of 12-month clinical change on the Alzheimer's Disease Composite Score (ADCOMS) for the effective dose 90% (ED90), which is the simplest dose that achieves ≥90% of the maximum treatment effect. This required an 80% probability of ≥25% clinical reduction in decline vs placebo. The secondary endpoint was a change from baseline at 18 months in brain amyloid. The trial included 854 patients with early AD. At 12 months, the 10-mg/kg biweekly ED90 dose showed a 64% probability to be better than placebo by 25%. It did not meet the 12-month primary endpoint, however, at 18 months it demonstrated reduction in brain amyloid with a consistent reduction of clinical decline across several clinical and biomarker endpoints.[3]
In a phase 3, randomized, double-blind, multicentered trial (NCT03887455) it assessed the efficacy of lecanemab compared to placebo. It included patients with early AD with mild cognitive impairment or mild dementia. The primary endpoint was the change from baseline at 18 months in the score on the Clinical Dementia Rating-Sum of Boxes (CDR-SB). The adjusted mean change from baseline at 18 months in the CDR-SB score was 1.21 in the lecanemab group and 1.66 in the placebo group (difference, −0.45; 95% CI, −0.67 to −0.23; P<0.001).[4]

Role of lecanemab:

Lecanemab is recommended in patients with mild impairment. Whether treatment should be started earlier or later in the disease process has not been evaluated, either from a safety or effectiveness standpoint. The recommended dosage is 10 mg/kg that must be diluted and administered as an intravenous infusion over approximately one hour, once every two weeks. Currently no maximum dose has been identified. Prior to initiating lecanemab and prior to the 5th, 7th, and 14th infusions, patients must obtain a brain MRI to assess for amyloid related imaging abnormalities (ARIA). [5]

New Drug Update - Leqembi [cont.]

It has been estimated that lecanemab would cost about $26,500 a year. It is currently not covered by Medicare, Medicaid, or Caremark. However, the manufacturer (Eisai) has a copay program available for commercially or privately insured patients paying up to $10,000 per year towards eligible patients out-of-pocket costs, deductibles, copays, and coinsurances. [6,7]

Conclusion:

LeqembiTM (lecanemab) was the second FDA approved medication for AD, it does not cure the disease but it helps slow the progression. It currently is not in the treatment guidelines as it was recently approved. Lecanemab is used in patients with early AD that have confirmation of elevated beta-amyloid. The statistics indicate lecanemab has been shown to be effective, and despite the financial burden of this medication, the results are promising allowing patients to have more time to live independently and participate in their daily activities. There currently are no studies that have been conducted that directly compare lecanemab to standard of care such as acetylcholinesterase inhibitors and NMDA receptor antagonists. Future studies comparing lecanemab to standard of care in terms of efficacy and safety are warranted.

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New Drug Update

Igalmi™ (dexmedetomidine)

Dianalyn Ulep, JD, PharmD Candidate, University of the Incarnate Word
Katherine Knudsen, BS, RPh, PharmD, BCPS, Clinical Pharmacy Specialist, Cleveland Clinic Lutheran Hospital

Sublingual Igalmi© (dexmedetomidine), manufactured by BioXcel, was FDA approved in April 2022 for the management of acute agitation in the treatment of schizophrenia, schizoaffective disorder, and bipolar disorder. This medication is administered sublingually or buccally behind the lower lip. Initial doses range from 60-180 mcg, varying based on severity of agitation, age, and degree of hepatic impairment. [1]

The intravenous formulation of dexmedetomidine was initially FDA approved in 1999 under the brand name Precedex© for intravenous sedation and anesthesia of intubated, mechanically ventilated, or non-intubated patients in intensive or surgical units. [2] Dexmedetomidine was reformulated to attempt to meet the need for a rapidly effective, non-invasive treatment for acute agitation with a favorable safety and tolerability profile.

Both dexmedetomidine and clonidine exhibit sedative effects through presynaptic inhibition of norepinephrine release on the alpha 2A receptor in the locus coeruleus and have non-adrenergic agonism of the imidazoline receptor. Dexmedetomidine has a significantly higher affinity for the alpha-2 receptor whereas clonidine has higher affinity for the imidazoline receptor. [3] This may explain the trend for a more favorable cardiovascular safety profile with dexmedetomidine. [4]

Serenity I, conducted in 2020, was a phase III, double blind, placebo-controlled trial designed to assess the safety and efficacy of Igalmi© for agitation in schizophrenia or schizoaffective disorder. The primary outcome assessed change in Positive and Negative Syndrome Scale-Excited Component (PEC) score 2 hours after administration of 180 mcg, 120 mcg, or placebo. A PEC score is a tool used to assess agitation severity by examining excitement, uncooperativeness, tension, poor impulse control, and hostility. Scores were assessed at screening, within 15 minutes prior to intervention, and at regular intervals post-intervention. Patients were required to have a PEC score ≥ 14, with a score ≥ 4 in at least one of the defined symptoms. If patients were not experiencing side effects and remained agitated, defined by PEC score decrease <40% from baseline after two and four hours, they may have been re-administered half of their intervention dose. [5]

The primary outcome of change in PEC score was -10.3 for the 180 mcg tablet, -8.5 for the 120 mcg tablet, and -4.8 for placebo. The least squares mean intervals were significantly decreased compared to placebo ($p < 0.001$). Treatment effects were seen within 20 minutes of administering the 180 mg tablet and 30 minutes of the 120 mcg tablet. Incidence of adverse effects were 37.3%, 39.5%, and 15.1% with 180 mcg, 120 mcg, and placebo, respectively, with somnolence being the most common effect seen. Other adverse effects included headache, hypotension, hypoesthesia, QT prolongation and dry mouth. Mean decrease in systolic blood pressure was 16.8 mmHg with the 180 mg tablet and 12.8 mmHg with the 120 mcg tablet. There were no reports of serious or severe adverse effects. [5]

New Drug Update - Igalmi [cont.]

Serenity II assessed the efficacy and safety of Igalmi© in patients with bipolar disorder with manic or mixed features. The design and primary outcome were the similar to Serenity I. The mean change in PEC score was -10.4 with the 180 mcg tablet, -9.0 for the 120 mcg tablet, and -4.9 for placebo. Both the interventions had significant decreases compared to placebo ($p < 0.001$). [6] Type and incidence of adverse effects were similar to that of Serenity I.

These findings suggest Igalmi© may be a safe and effective alternative to current standards of care for the treatment of moderate to severe acute agitation for patients with schizophrenia, schizoaffective disorder, or bipolar disorder types I and II who are cooperative enough to tolerate oral medication administration. However, Igalmi© is not without its limitations. Its safety and efficacy have not been demonstrated beyond 24 hours of use and patients in these trials underwent informed consent, which may limit the generalizability of these results to patients in emergent settings.

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New Drug Update

Targeting a New Mechanism: Two Novel Agents for Alzheimer's Disease

Sophia Carroll, 2025 PharmD Candidate, The University of Toledo
Faith Sears, 2023 PharmD Candidate, The University of Toledo
Julie A. Murphy, PharmD, FASHP, FCCP, BCPS

Background:

In June 2021, the FDA approved aducanumab-avwa (Aduhelm®) via the Accelerated Approval pathway for the treatment of Alzheimer's disease (AD). [1] Aducanumab is the first novel therapy approved for AD since 2003 and is the first treatment directed at the suspected underlying pathophysiology, the presence of amyloid beta (Aβ) plaques in the brain. [2,3] Aducanumab is an IgG1 monoclonal antibody, that preferentially targets soluble aggregated Aβ plaques, with activity across oligomers, protofibrils, and insoluble fibrils. [3,4] Lecanemab-irmb (Leqembi®) is the second medication of this new class that also targets the Aβ plaques. Lecanemab was approved by the FDA in January 2023 via the Accelerated Approval pathway for the treatment of AD. [5] The Accelerated Approval pathway allows for earlier approval of drugs that treat serious conditions and that fill an unmet medical need. Approval is based on a surrogate endpoint that is reasonably likely to predict clinical benefit. [1,5]

Approval:

The accelerated approval of aducanumab was based on a reduction of Aβ plaque in the brain in a dose and time-dependent fashion. [1] The efficacy and safety of aducanumab were evaluated in patients with early AD through two identical multicenter, double-blind, randomized, placebo-controlled phase 3 studies, EMERGE (n=1638) and ENGAGE (n=1647). [4] The primary endpoint for both EMERGE and ENGAGE was a change from baseline to week 78 on the Clinical Dementia Rating Sum of Boxes (CDR-SB), an integrated scale from 1 to 18 that assesses both function and cognition, with higher scores indicating greater impairment. The EMERGE high dose arm met the primary endpoint, but the low dose arm of EMERGE and both arms of ENGAGE failed to meet the primary endpoint. A surrogate endpoint for EMERGE AND ENGAGE was the appearance of Aβ plaques on PET scans. [1] Significant dose- and time-dependent reductions in amyloid PET standardized uptake value ratio (SUVR) were associated with aducanumab treatment in both EMERGE and ENGAGE. After 78 weeks, 48% of patients from EMERGE and 31% of patients from ENGAGE treated with high-dose aducanumab had PET composite scores of <1.10 (a proposed threshold that distinguishes between Aβ-negative and -positive patients). [4]

While plaque-reduction data is promising, the limitations of these studies must be considered. Both trials were terminated after approximately 50% of patients in each study had completed treatment to week 78 when prespecified futility analysis criteria were met. The studies also only included patients with confirmed presence of amyloid plaques, which may not be present in all patients with AD. The trials were also limited exclusively to those with mild cognitive impairment (MMSE of 24-30 and a CDR-global score of 0.5). Many patients with AD are not even diagnosed until cognitive impairment becomes more apparent, which limits the drug's clinical usefulness. Finally, patients on anticoagulants were excluded from the trial (due to the risk of microhemorrhage), which excludes a large portion of the population to which this medication might have been applicable. The FDA acknowledges the complicated data with respect to the clinical benefit of aducanumab but has determined the substantial evidence of plaque reduction is likely to positively impact patients. [1]

New Drug Update - Alzheimer's Agents [cont.]

Table 1: Summary of Aducanumab Trials [4]

Study	Comparator	Primary Endpoints	Results
EMERGE	Placebo	CDR-SB change from baseline at week 78	**Difference vs. placebo at week 78** **Low Dose (3 or 6 mg/kg)** CDR-SB - (-15%) **High Dose (10 mg/kg)** CDR-SB - (-22%) Low dose: p=0.090; High dose: p=0.012
ENGAGE			**Difference vs. placebo at week 78** **Low Dose (3 or 6 mg/kg)** CDR-SB - (-12%) **High Dose (10 mg/kg)** CDR-SB - 2% Low dose: p=0.225; High dose: p=0.833

The FDA accelerated approval of lecanemab was also based on an observed reduction of Aβ plaque. [5] The efficacy of lecanemab was evaluated in a multicenter, double-blind, placebo-controlled, phase 2b study (Study 201) that utilized response adaptive randomization in 854 patients with early AD. [6] The primary endpoint was the change from baseline at 12 months on the Alzheimer's Disease Composite Score (ADCOMS) for the ED90 dose (simplest dose that achieves ≥90% of the maximum treatment effect). The ED90 dose was identified as 10 mg/kg biweekly. [6] Dose-dependent reductions in amyloid PET SUVR values were observed. After 18 months, the data suggested that on average patients treated with 10 mg/kg biweekly fall below the SUVR threshold for amyloid-PET positivity but was not statistically significant. This may be due to a protocol amendment after a planned interim analysis. One regulatory authority requested that ApoE4 carriers (approximately 70% of the total study population) no longer be administered the 10mg/kg biweekly dose after emerging safety data revealed there may be an increased risk of ARIA-E events in this population. [6]

In January 2023, the results from CLARITY-AD, a multicenter, double-blind, placebo-controlled trial investigating the effects of lecanemab in 1795 patients with early AD were published. [7] Changes from baseline in Aβ plaques on PET scan, Alzheimer's Disease Assessment Scale (ADAS-cog14), ADCOMS, and the Alzheimer's Disease Cooperative Study Activities of Daily Living Scale for Mild Cognitive Impairment (ADCS-MCI-ADL) were all examined as secondary endpoints. At 18 months, the mean CDR-SB was 1.21 in the lecanemab arm and 1.66 in the placebo arm ($p<0.0001$). Lecanemab also demonstrated a significant reduction in CDR-SB score from baseline (Table 2). While statistically significant, the raw change in CDR-SB from baseline may not be clinically meaningful. The effect of lecanemab on cognitive decline over 18 months or more is unknown.

New Drug Update - Alzheimer's Agents [cont.]

Table 2: Summary of Lecanumab Trials [6, 7]

Study	Comparator	Primary Endpoints	Results
Study 2016	Placebo Placebo	ADCOMS change from baseline at 12 months	**Dose - 10 mg/kg Biweekly** Probability of being better than placebo by at least 25%: 64%* *did not meet 80% threshold for primary outcome
CLARITY-AD7		CDR-SB change from baseline at 18 months	**Dose - 10mg/kg Biweekly** Percent reduction in CDR-SB over 18 months versus placebo: 27% p=0.00005

Like aducanumab, lecanemab has demonstrated statistically significant reductions in Aβ plaques. However, the correlation between Aβ plaque burden and the extent of clinical disease has not been well established. For example, an individual could display no signs or symptoms of disease but still have Aβ plaques present on imaging. [8] The presence of Aβ plaques has not been established as the primary pathology in AD, and these medications do not address other suspected mechanisms such as neurofibrillary tangles.

Role in Therapy:

Aducanumab is indicated for the treatment of early-onset AD. The recommended dosage is 10 mg/kg administered by an intravenous infusion over approximately one hour every four weeks. [9] Aducanumab's most common adverse effects are amyloid-related imaging abnormalities with edema (ARIA-E) (35%), hemorrhage (ARIA-H) [microhemorrhage (19%) and superficial siderosis (15%)], headache (21%), and falls (15%). The incidence of ARIA-E was higher in the high-dose groups. The safety of aducanumab has not been established for patients with superficial siderosis, ten or more microhemorrhages, or a brain hemorrhage greater than one cm prior to treatment initiation. A magnetic resonance imaging (MRI) should be obtained at baseline and prior to the 5th, 7th, 9th and 12th infusions of aducanumab treatment to ensure no abnormalities are present. [9]
The recommended dosing for lecanemab is 10 mg/kg administered via intravenous infusion over one hour every two weeks. [10] The most common adverse effects of lecanemab include infusion-related reactions (26%), ARIA-H (17%), ARIA-E (13%), headache (11%), and falls (10%). [6,10] An MRI should be performed at baseline and prior to the 5th, 7th and 14th infusions of lecanemab treatment to monitor for imaging abnormalities. [10]

New Drug Update - Alzheimer's Agents [cont.]

One additional factor to consider with these medications is their significant cost. One year of Aduhelm® treatment at the 10mg/kg maintenance dose for a patient who weighs 74kg is expected to cost about $28,200. [11] One year of treatment with Leqembi® in a patient of roughly the same weight is expected to cost $26,500. [12] The substantial cost of these medications combined with their questionable efficacy data may make insurance companies less eager to add them to their formularies, which could significantly limit the ability of patients to access these treatments.

There are no contraindications for either aducanumab or lecanemab. However, a case report published in February 2023 describes a situation where a 65-year-old patient using lecanemab experienced multiple cerebral hemorrhages after receiving tissue plasminogen activator (t-PA) for an ischemic stroke. The extent of hemorrhages, along with their variations in size are reportedly inconsistent with typical t-PA-related cerebral hemorrhages. The findings of this case suggest that t-PA should be avoided in patients receiving lecanemab. [13]

Conclusion:

Aducanumab and lecanemab are the first drugs in a novel class of IgG1 monoclonal antibodies for the treatment of AD. Unlike other medications for AD, aducanumab and lecanemab address one proposed underlying mechanism by reducing Aβ plaques. [2,3] The Alzheimer's Association recommends providers adhere to FDA-approved indications when prescribing. [2] Aducanumab and lecanemab are currently only approved for individuals with AD who have a mild level of cognitive impairment or mild-stage dementia. It is not recommended to initiate therapy in patients with moderate to severe stages of cognitive impairment or disease. [9,10] There are significant adverse effects associated with these medications, so it is imperative to evaluate the risks and benefits of treatment associated with each before starting. The FDA continues to monitor both medications while on the market and will require further investigation to verify clinically meaningful outcomes. [1,5]

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