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Original Article

A regional framework for the detection and management of ARIA with anti-amyloid therapies in early Alzheimer's disease in Asia

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ABSTRACT

Alzheimer's disease (AD) is a growing public health concern in Asia, with an increasing prevalence driven by demographic shifts and rising life expectancy. The introduction of anti-amyloid monoclonal antibodies such as lecanemab and donanemab marks a pivotal transition from symptomatic management of AD to disease-modifying approaches, but their clinical use requires careful monitoring for amyloid-related imaging abnormalities (ARIA), a key safety consideration that presents either as vasogenic edema or as microhemorrhages and superficial siderosis. ARIA has been observed in varying frequencies across global and Asian clinical trial populations, underscoring the need for region-specific guidance. With our early clinical experiences in South Korea, Taiwan and Singapore serving as archetypes in Asia, we outline a framework for the detection and management of ARIA in Asian healthcare settings, accounting for disparities in imaging infrastructure, genetic factors, and clinician experience. Pre-treatment risk stratification, standardized imaging protocols, and severity-based treatment modifications are central to the framework, highlighting the critical role of multidisciplinary collaboration involving neurologists, geriatricians, psychiatrists, and radiologists in ensuring accurate detection and management of ARIA. Additionally, the paper highlights the role of pharmacovigilance, real-world evidence generation, physician education, and healthcare system preparedness in optimizing the safety and efficacy of anti-amyloid therapies in Asia. The proposed framework aims to ensure safe and effective use of anti-amyloid therapies while mitigating ARIA-related risks, thereby optimizing therapeutic outcomes for early AD in diverse healthcare settings across Asia.

1. Background

Alzheimer's disease (AD) is emerging as a major public health priority in Asia, driven by demographic transitions and increasing life expectancy [1,2]. Projections indicate that by 2050, the global prevalence of dementia will reach 135 million, with over half of those affected residing in the Asia-Pacific region, where the number of people living with dementia is expected to grow from 23 million in 2015 to nearly 71 million by 2050 [3]. AD remains the leading cause of dementia, responsible for 60–80 % of cases [4,5], and has wide-ranging effects, physically, mentally, and socially, on those affected, as well as their families and caregivers [4,6]. Additionally, it poses significant challenges for healthcare systems due to increasing demand for specialized care and resources [4,6].

Recent advances in AD therapeutics have introduced a new class of disease-modifying treatments targeting amyloid-β (Aβ), the hallmark

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pathological feature of AD [7]. Anti-amyloid monoclonal antibodies – lecanemab and donanemab – have demonstrated efficacy in slowing cognitive decline in patients with early-stage AD [8,9]. These agents represent a paradigm shift from symptomatic treatment of AD to disease-modifying interventions and are being increasingly considered for clinical use in various parts of the world, including Asia. For the successful implementation of anti-amyloid therapies in clinical practice, it is critical to establish best practices for the identification and diagnosis of eligible patients, safe administration of therapies and monitoring of treatment, timely identification and management of potential adverse events, and fostering cross-disciplinary collaboration among healthcare professionals. However, the introduction of these therapies has also brought new safety considerations, most notably amyloid-related imaging abnormalities (ARIA), which require rigorous monitoring.

On Magnetic Resonance Imaging (MRI) scans, ARIA present as edema and sulcal effusions (ARIA-E) and/or cerebral microhemorrhages and superficial siderosis (ARIA-H) [10]. In the lecanemab phase 3 study (CLARITY AD), ARIA-E and ARIA-H occurred in 12.6 % and 17.3 % of all participants on lecanemab versus 1.7 % and 9 % of all participants on placebo, respectively [8], while in the donanemab phase 3 study (TRAILBLAZER-ALZ-2) ARIA-E and ARIA-H were reported in 24 % and 31.4 % of patients receiving donanemab versus 2.1 % and 13.6 % of patients receiving placebo, respectively [9]. The majority of these ARIA events were asymptomatic, yet their identification and differentiation from other neurologic conditions remains a clinical imperative [11,12]. Although often asymptomatic or mild, ARIA can sometimes result in serious complications, particularly in patients with certain genetic risk factors (e.g., apolipoprotein E [APOE] ε4 carriers) or those with significant cerebral amyloid angiopathy (CAA) at baseline [10,13,14]. Furthermore, distinguishing symptomatic ARIA presenting with headache, dizziness, visual changes and praxis difficulties from stroke is crucial as misdiagnosis and inappropriate treatment with thrombolytics could lead to life-threatening intracranial hemorrhage [11]. The risk of ARIA could be a significant barrier to the widespread clinical adoption of anti-amyloid therapies [14,15]. Recognizing, monitoring, and managing ARIA is therefore essential for the safe and effective use of these therapies.

As healthcare systems in Asia prepare to handle the growing number of patients with early AD on anti-amyloid therapies, close multidisciplinary collaboration involving neurologists, geriatricians, psychiatrists and radiologists is crucial to identify contraindications to treatment, to ensure prompt detection and effective monitoring of ARIA (and any other adverse events) during the treatment process, and to support decisions related to adjusting doses or discontinuing therapy when necessary. As anti-amyloid therapies expand beyond tertiary neurology centers in the future, geriatricians and psychiatrists will increasingly participate in prescribing and care coordination, reinforcing the need for seamless cross-specialty communication. As such, a standardized approach to ARIA detection and management across Asia is essential to minimize inter-site variability, reduce misdiagnosis, and optimize patient safety.

In this paper, we explore the regional considerations for the detection and management of ARIA in Asia and provide guidance for clinicians to support safe and effective implementation of anti-amyloid therapies across diverse clinical settings.

2. Methodology

This expert opinion paper was developed through a structured discussion among a panel of seven clinicians. The experts were selected based on their extensive involvement in clinical trials and real-world implementation of anti-amyloid therapies, including first-hand experience with lecanemab, donanemab and aducanumab in both academic and clinical settings. The panel consisted of neurologists and radiologists from South Korea, Taiwan, and Singapore – countries where anti-amyloid therapies have been approved at different points in time allowing for the inclusion of diverse perspectives reflecting varying healthcare system capacities, imaging practices, and regulatory readiness.

In a meeting conducted in March 2025, the experts examined how regional genetic, cultural, and healthcare system differences impact ARIA detection and patient management strategies and discussed the concerns and challenges associated with ARIA and its management in real-world settings across Asia. They also explored standardized approaches to ARIA management in clinical settings in Asia, including imaging protocols, treatment algorithms, and multidisciplinary collaboration and identified key educational and evidence generation needs. Topics were explored through facilitated discussions, drawing on published evidence and information in product labels for anti-amyloid therapies, expert clinical judgment, and observed trends from health systems where anti-amyloid therapies are already in routine use. The outcomes of these discussions were amalgamated into a proposed regional framework for ARIA detection and management in Asia, reflecting both the shared principles with global recommendations and localized nuances necessary for effective clinical implementation. This paper presents the regional framework aiming to provide practical guidance for clinicians across Asia preparing for or currently implementing anti-amyloid therapies in clinical practice.

3. Proposed regional framework for ARIA detection and management

With increasing global adoption of anti-amyloid therapies, appropriate use recommendations (AUR) and best practices for ARIA detection, reporting, and management have been established [11,16,17]. However, the differences in healthcare infrastructure, and genetic and environmental risk factors in Asia highlight the need for a clinical management framework tailored for Asian countries.

Healthcare infrastructure across Asia is highly heterogeneous, with significant disparities in access to MRI and availability of trained specialists, especially in low resource and rural settings [6,18]. Additionally, clinician familiarity with ARIA and its management may differ in Asia due to limited awareness and clinical experience with ARIA, and variations in exposure to anti-amyloid therapies.

Genetic and environmental factors also play a role in regional differences in AD pathology and treatment response. The substantial burden of co-existing Alzheimer's and cerebrovascular disease in Asian populations is believed to accelerate amyloid and tau pathology, leading to faster cognitive decline [19,20]. White matter hyperintensities and microbleeds, a key marker of small vessel disease, have also been reported to be more prevalent in Asians [19,21,22]. Furthermore, neuropathological studies suggest that while the prevalence of CAA may be similar in Asian and Western populations, the pattern and severity of pathology can vary; for example, East-Asian populations may exhibit a higher proportion of lobar microbleeds, reflecting differences in vascular amyloid distribution and small vessel disease mechanisms [23]. The apolipoprotein E (APOE) ε4 allele, the most well-established genetic risk factor for AD as well as for ARIA events with anti-amyloid therapies, varies in prevalence across different racial and regional groups [13,24]. Studies indicate that the frequency of APOE ε4 in Asian populations with AD and mild cognitive impairment is lower compared to Western populations, potentially contributing to differences in disease presentation and risk [24–26]. Indeed, subgroup analysis in Asian participants enrolled in the pivotal trial for lecanemab reported a lower incidence of ARIA events in the Asian subgroups compared with the global population, while the ARIA incidence in a Japanese subgroup treated with donanemab was higher than the overall population (Table 1) [8,9,27,28]. Genetic differences may partly account for the incidence of ARIA observed in Asian populations during clinical trials, but further research to investigate the reasons behind these differences are warranted.

Driven in part by the limited representation of Asian populations in pivotal randomized controlled trials (RCTs) and the relatively small

Table 1
Incidence of ARIA events reported in pivotal clinical trials for lecanemab and donanemab in global populations versus Asian populations [8,9,27,28].

	LECANEMAB (10 mg/kg; CLARITY-AD)				DONANEMAB (700 mg for three doses, then 1400 mg/dose; TRAILBLAZER-ALZ-2)			
	Overall (CLARITY AD)		Asia region		Overall (TRAILBLAZER ALZ-2)*		Japanese subpopulation	
	Placebo (*N* = 897)	Lecanemab (*N* = 898)	Placebo (*N* = 148)	Lecanemab (*N* = 146)	Placebo (*N* = 874)	Donanemab (*N* = 853)	Placebo (*N* = 43)	Donanemab (*N* = 45)
ARIA-E	1.7 % (15/897)	12.6 % (113/898)	1.4 % (2/148)	6.2 % (9/146)	2.1 % (18/874)	24.0 % (205/853)	2.3 % (1/43)	22.2 % (10/45)
ARIA-H	9.0 % (81/897)	17.3 % (155/898)	16.2 % (24/148)	14.4 % (21/146)	13.6 % (199/874)	31.4 % (268/853)	11.6 % (5/43)	35.6 % (16/45)

ARIA-E/H: amyloid-related imaging abnormalities-edema or effusions/hemorrhage (including superficial siderosis).
* In TRAILBLAZER-ALZ 6, the frequency of ARIA-E was 13.7 % in the modified titration arm versus 23.7 % in the standard arm at week 24; a 40.5 % lower relative ARIA-E risk was observed in the modified titration arm [38].

number of RCTs conducted within Asia, regional regulatory agencies increasingly rely on real-world data to guide approval and reimbursement decisions [29]. This highlights the importance of region-specific evidence to guide decision-making; real-world ARIA safety monitoring studies will play a pivotal role in addressing this gap, providing valuable insights into the safety and efficacy of anti-amyloid therapies in diverse, real-world settings across Asia. Additionally, cultural differences in patient communication between Asian and Western populations must be factored into any framework to ensure effective engagement, informed decision-making, and tailored care approaches for individuals receiving anti-amyloid therapies.

These intersecting challenges ranging from infrastructure variability, genetic differences and limited trial data warrant an urgent need for a standardized, regionally tailored framework for ARIA detection and management in early AD.

3.1. Assessment and diagnosis of ARIA

3.1.1. Mechanism, appearance and classification of ARIA

Accumulation of amyloid in vessel walls can disrupt vascular integrity, impair perivascular clearance, and potentially contribute to spontaneous microhemorrhages [10,13]. Initiation of anti-amyloid therapy in patients with pre-existing Aβ vascular pathology may cause plaque breakdown and increased amyloid mobilization, overloading perivascular clearance and temporarily increasing vascular amyloid deposition [10,13]. Concurrently, antibody-mediated inflammation and amyloid breakdown in vessel walls further compromises the vascular integrity and disrupts the blood-brain barrier [10,13]. This results in leakage of proteinaceous fluid and/or red blood cells into the brain and/or leptomeningeal space, manifesting as edema/effusion – ARIA-E, or microhemorrhages/superficial siderosis – ARIA-H [10,13]. These pathophysiologic changes manifest on MRI as ARIA-E and ARIA-H, depending on the nature and location of the leakage.

3.1.2. ARIA-E

ARIA-E, the more common form of ARIA, presents as vasogenic edema and sulcal effusions and is best visualized on a T2 fluid-attenuated inversion recovery (FLAIR) sequence. Leakage of proteinaceous fluid into the cerebral parenchyma leads to edema, while leakage into leptomeningeal spaces results in sulcal effusion or exudate, and a T2 hyperintense signal is seen in the white matter and/or the grey matter [13,14]. ARIA-E tends to involve the occipital lobes most frequently, followed by the parietal, frontal, and temporal lobes, with the cerebellum being affected least often [13]. An ARIA-E event is usually clinically asymptomatic and typically detected through routine MRI monitoring; however, when symptoms do occur, they most commonly include headache, confusion, nausea, visual changes, or disturbances in gait [8,30,31]. The severity of ARIA-E depends upon the location and the extent of abnormality (Table 2) [32,33].

3.1.3. ARIA-H

ARIA-H is defined by the presence of cerebral microhemorrhages – leakage of red blood cells into the cerebral parenchyma – and/or superficial siderosis – leakage of red blood cells into leptomeningeal or subpial spaces [13,14]. Microhemorrhages appear as small (<10 mm), rounded, punctate hypointense lesions in the parenchyma and superficial siderosis appears as curvilinear hypo-intensities on the cerebral surface, on heme-sensitive sequences, such as gradient recalled-echo (GRE)/T2* MRI and susceptibility weighted imaging (SWI) [13,14]. While ARIA-H is also typically asymptomatic with no clinical sequelae, pretreatment microhemorrhages or hemosiderin deposits are a risk factor for future ARIA events with anti-amyloid therapies [13,14]. The severity of ARIA-H is determined by the number of areas affected (Table 2) [32,33].

3.2. Risk factors for ARIA in patients receiving anti-amyloid therapies

Anti-amyloid monoclonal antibodies represent a major advance in disease-modifying treatment for early Alzheimer's disease; however, careful assessment of risk factors for ARIA is essential before initiating these therapies (Table 3).

3.2.1. Genetic risk – APOE ε4

The APOE ε4 allele, a well-established genetic risk factor for both AD and ARIA, is associated with increased blood-brain barrier permeability and vascular amyloid deposition [34,35]. Homozygous carriers (ε4/ε4)

Table 2
Classification criteria for radiologic severity of ARIA for lecanemab and donanemab [32,33].

ARIA Type	Radiologic severity		
	Mild	Moderate	Severe
ARIA -E	FLAIR hyperintensity confined to sulcus and/or cortex/subcortex white matter in one location <5 cm in size	FLAIR hyperintensity 5–10 cm in single greatest dimension, or >1 site of involvement, each measuring <10 cm.	FLAIR hyperintensity >10 cm with associated gyral swelling and sulcal effacement. One or more separate/independent sites of involvement may be noted.
ARIA-H microhemorrhage	≤ 4 new incident microhemorrhages	5–9 new incident microhemorrhages	≥10 new incident microhemorrhages
ARIA-H superficial siderosis	1 focal area of superficial siderosis	2 focal areas of superficial siderosis	> 2 focal areas of superficial siderosis

ARIA-E/H: amyloid-related imaging abnormalities-edema or effusions/hemorrhage (including superficial siderosis); FLAIR: fluid-attenuated inversion recovery.

Table 3
Key risk factors for ARIA with anti-amyloid therapies and recommended clinical considerations.

Risk factor	Associated ARIA type	Action/Consideration
APOE ε4 homozygosity*	ARIA-E, ARIA-H	Genotyping recommended; higher monitoring frequency
>4 microhemorrhages at baseline* >1 siderosis	ARIA-H	Exclude from treatment if meeting label contraindications or MRI findings suggestive of high ARIA risk (e.g., extensive microhemorrhages or siderosis)
Significant WMH (Fazekas score 3)*	ARIA-E, ARIA-H	Increased ARIA risk; consider treatment risk; if treated, implement intensified MRI monitoring and multidisciplinary review
Concomitant anticoagulants	ARIA-H	Use with caution
History of stroke	ARIA-E, ARIA-H	Exclude patients with a history of recent stroke
Older age/high amyloid burden	ARIA-E, ARIA-H	Increased vigilance required
Early treatment period	ARIA-E	Higher incidence of ARIA-E observed in first 3–6 months – increased vigilance

* Highest impact risk factors; APOE: apolipoprotein E; ARIA-E/H: amyloid-related imaging abnormalities-edema or effusions/hemorrhage (including superficial siderosis); MRI: Magnetic Resonance Imaging; WMH: white matter hyperintensities.

exhibit the highest risk for both ARIA-E and ARIA-H, followed by heterozygotes, with non-carriers having the lowest risk [8,9]

3.2.2. *Imaging findings – microhemorrhages and superficial siderosis*

Pre-existing cerebral microhemorrhages and superficial siderosis, which are indicative of CAA, are predictive of ARIA-H development on treatment with anti-amyloid agents, and as such patients with more than 4 pretreatment microhemorrhages were excluded from pivotal trials for lecanemab and donanemab [8,9].

3.2.3. *Treatment exposure – dose and timing*

Drug exposure – drug dose and time course – is also a major risk factor for the development of ARIA, and the risk of developing ARIA is greater earlier in the treatment course and with a higher dose of the anti-amyloid therapy [14,34]. In a phase 2 study of lecanemab, the incidence of ARIA-E was higher in the 10 mg/kg groups, administered either monthly (9.9 %) or biweekly (9.9 %), compared to the 5 mg/kg groups, given monthly (2.0 %) or biweekly (3.3 %), and the 2.5 mg/kg biweekly group (1.9 %) [36]. In the phase 3 CLARITY AD core study, ARIA-E events occurred in the first 3 months of treatment with lecanemab [8]; safety updates in the core study with an open label extension period reported similar results – ARIA-E with lecanemab occurred within the first 3 months (71 %) or 6 months (92 %) [37].

A recent phase 3 study suggested that gradual up-titration of donanemab was associated with a reduction in the risk of ARIA-E without affecting amyloid clearance; however, no reduction in ARIA-H was observed [38]. These findings should be interpreted with caution given the relatively small sample size in the study, including only a limited number of APOE4 homozygous individuals. While titration may represent one strategy to mitigate the risk of ARIA with donanemab, cross-trial data indicate that the overall ARIA-E rates reported with donanemab, even with titration, remain higher than those observed with lecanemab in the CLARITY AD study.

3.2.4. *Concomitant medications – antithrombotics and thrombolytics*

The use of antithrombotic medications alongside lecanemab and donanemab has not been linked to an increased risk of developing ARIA-H in clinical trials [32,33]. In the core CLARITY-AD study, the rates of ARIA were slightly higher in the placebo group receiving concurrent anticoagulants versus subjects on placebo who were not receiving anticoagulants [36]. However, the rates of ARIA-E, microhemorrhage, and superficial siderosis were lower in participants treated with lecanemab and either antiplatelet or anticoagulation therapies versus those treated with lecanemab alone [37]. As such, the United States (US) Food and Drug Administration (FDA) label for lecanemab states that antithrombotic medications did not increase the risk of ARIA when used concomitantly [16]. Nevertheless, the AURs for lecanemab and donanemab recommend additional caution when initiating therapy in patients requiring antithrombotic or thrombolytic agents and advise excluding anticoagulants until more safety data become available [16,17,32,33]. The administration of thrombolytic agents to patients receiving anti-amyloid therapy is further complicated by the unpredictable nature and significant clinical impact of events that require their urgent use, such as stroke, pulmonary embolism and myocardial infarction. This is particularly relevant in urgent care settings where it will become critical to distinguish between symptoms of stroke and those of an ARIA event, before initiating treatment.

3.2.5. *Others – comorbidities, risk of stroke, age, amyloid burden*

Additionally, the risk of stroke should be appropriately assessed in patients being considered for anti-amyloid therapies since a history of stroke has been linked to increased vascular permeability, which may in turn elevate the risk of developing ARIA-E or ARIA-H [39]. Patients with a history of stroke were excluded from pivotal trials of the anti-amyloid therapies, and AURs for lecanemab and donanemab also recommend excluding patients with a recent history of stroke [16,17].

Other risk factors to consider when initiating anti-amyloid therapies include age, which is a risk factor for increased microbleeds and CAA, and baseline amyloid burden, which may increase the risk of ARIA and should therefore be assessed prior to treatment initiation [30,39].

3.3. *Imaging sequences and protocols*

In clinical trials, imaging protocols are standardized to ensure consistent sensitivity and reliability of ARIA detection across different sites and throughout repeated assessments. The Alzheimer's Association Research Roundtable Workgroup recommended a minimum standard MRI protocol for ARIA and in concordance with these recommendations, clinical trials for lecanemab and donanemab have used axial T2-FLAIR for ARIA-E detection and axial T2* GRE for ARIA-H detection [14]. In clinical practice, a minimum protocol includes T2-FLAIR (for ARIA-E), T2* GRE (for ARIA-H), and Diffusion Weighted Imaging (DWI) to rule out ischemia (Table 4) [11,40,41].

High-resolution 3D T2-FLAIR imaging can enhance the detection of subtle fluid signals and parenchymal edema, while also minimizing the risk of artifacts, thereby improving overall imaging accuracy [30,41]. Although, 3D T2-FLAIR offers improved resolution and artifact

Table 4
Recommended imaging sequences for baseline imaging and ARIA monitoring examinations [11,40,41].

Component	Minimum	Recommended
Scanner field strength	1.5T	3T
Slice thickness	≤5 mm	
Echo time for GRE	25–35 ms (1.5T);	15–20 ms (3T)
Scan time	≤15 min	
Imaging sequence	2D T2-FLAIR for ARIA-E T2* GRE for ARIA-H 2D DWI for differential diagnosis of cytotoxic edema	3D T2-FLAIR for ARIA-E T2* GRE (±SWI) for ARIA-H 2D DWI for differential diagnosis of cytotoxic edema

ARIA-E/H: amyloid-related imaging abnormaties-edema or effusions/hemorrhage (including superficial siderosis); DWI: diffusion weighted imaging; FLAIR: fluid-attenuated inversion recovery; GRE: gradient recalled echo; SWI: susceptibility weighted imaging.

reduction, 2D T2-FLAIR remains the minimum required sequence due to greater availability and shorter acquisition times, especially in lower-resource settings.

When compared with GRE imaging, SWI is more sensitive to detecting hemosiderin deposits, but is less standardized [13,30]. On the other hand, GRE is more widely available and is a more robust sequence, making it easier to implement a standardized protocol for widespread adoption, and remains the preferred sequence for ARIA-H based on clinical trial alignment. Furthermore, GRE was used in clinical trials for anti-amyloid antibodies and the current recommendations for dose adjustments for ARIA are based on GRE data. Utilization of SWI for the detection of microhemorrhages might classify a patient in a higher grade of severity requiring dose suspension, while the same patient might be allowed to continue on treatment based on a GRE scan. Until more data for SWI for detecting ARIA-H events becomes available from clinical trials, axial T2* GRE should be the minimum required sequence for ARIA-H. In South Korea, SWI has been routinely used for the differential diagnosis of dementia in preference to GRE imaging over the past decade. However, the AUR for lecanemab is based on the detection of microhemorrhages and superficial siderosis using GRE imaging [16]. Therefore, the Korean Society of Neuroradiology now recommends T2*-weighted GRE as the required sequence, supplemented by SWI when feasible [40]. The National Neuroscience Institute (NNI) in Singapore has extensive experience with SWI and there is a high likelihood of patient retention. Hence, NNI has included both SWI and GRE at baseline for monitoring for ARIA-H with lecanemab, relying on the SWI if there is discordance in the microhemorrhage count between both sequences. This will result in a more conservative approach for patient eligibility and severity scoring of ARIA, which the neurologists at NNI are more comfortable with, ensuring greater patient safety. In healthcare settings that choose to perform both T2*GRE and SWI, radiologists and neurologists should collaborate to discuss how to resolve any discrepancy between the microbleed numbers detected on GRE imaging and SWI, keeping in mind that increased sensitivity of SWI for microbleeds may change the eligibility status of a patient to receive medication and upgrade the ARIA severity score.

A DWI sequence is essential to differentiate ARIA-E from cytotoxic edema associated with ischemia [30]. Additional sequences such as T2 turbo/fast spin echo may help clarify equivocal findings [13,40], and contrast-enhanced imaging should be reserved for cases where alternative diagnoses (e.g., infection, neoplasm) are suspected [13,40]. Additionally, MRI volumetric sequences can help assess concurrent dementia or other neurodegenerative conditions that might contribute to cognitive decline [13]. Magnetic Resonance Angiography is not routinely recommended for ARIA monitoring [14,30] but may be selectively used to evaluate suspected vascular abnormalities, particularly in patients with prior stroke, multiple microbleeds, or suspected CAA-related vasculopathy [34].

Thus, the minimum sequences for ARIA detection are standardized versions of 2D T2-FLAIR, T2* GRE, and DWI on a scanner field strength of 1.5T (Table 4), and these sequences are required at baseline or pre-treatment assessment, and at each routine monitoring assessment.

3.4. Baseline and monitoring scans – the importance of standardization

Baseline brain MRI with standardized sequences is essential to assess eligibility for anti-amyloid therapy by identifying pre-existing cerebral microhemorrhages or siderosis that may increase ARIA risk and may exclude the patient from receiving treatment. Additionally, these pre-treatment imaging scans provide a baseline for comparison of subsequent monitoring assessments. The US FDA labels for lecanemab and donanemab recommend a recent MRI scan prior to treatment, typically within 12 months [32,33]. The AURs for lecanemab and donanemab support this window but recommend repeating the MRI if 1–4 microhemorrhages are found on the initial scan [16,17]. A high-quality MRI scan with the minimum required sequences within 12 months before initiating treatment should be acceptable if no microhemorrhages are detected; however, a repeat scan is warranted if 1–4 pre-treatment microhemorrhages are detected in the baseline scan.

Because most ARIA events occur within the first 3–6 months of treatment [8,14,34,37], MRI monitoring should be most frequent during this period and should follow label-specific schedules with MRI scans using standardized minimum sequences conducted at each monitoring assessment in the first year of anti-amyloid treatment. Additional scans may be performed at the prescribing physician's discretion if clinical circumstances warrant, based on clinical judgement [11,30,32,33]. Patients who present with symptoms suggestive of ARIA should undergo a comprehensive clinical evaluation including additional MRI scans if indicated – all differential diagnosis, such as infarcts, tumors, metastases and infection, should be considered and explored.

Apart from the standard minimum sequences recommended for ARIA detection, it is important that imaging standards at baseline and each subsequent monitoring scan remain consistent through the patient journey. This supports the application of standardized assessment and treatment protocols and enables consistent comparison of results across multiple MRI scans for the same patient. All scans should be performed on the same scanner model, from the same manufacturer, with identical sequences and the same field strength [11,40,41]. Standardizing protocols at the institutional level is essential, but challenges can emerge when patients transition between institutions, whether from public to private settings or vice versa. In such cases, radiologists must strive to align protocols and imaging sequences as closely as possible, while carefully assessing any differences that could impact ARIA evaluation.

The use of standardized reporting templates for MRI findings helps ensure that all relevant information is communicated to the referring neurologist in a timely manner, promoting effective patient care and management. Adoption of a uniform reporting template becomes particularly relevant for maintaining continuity of care during patient transfers across hospitals and for large healthcare systems staffed by several radiologists. The American Society of Neuroradiology (ASNR) has developed reporting templates for baseline and monitoring MRI scans which can be adapted to local settings [42]. In South Korea, standard reporting form templates have been developed in hospitals for assessing patients for treatment with lecanemab, and for monitoring patients on lecanemab and those with suspected symptomatic ARIA [40]. In Singapore, the NNI also uses standardized templates for reporting based on the ASNR recommendations which have been disseminated amongst the health groups to ensure consistent reporting. Radiologists in Taiwan use AutoHotKey, a tool to draft a report in the radiological reporting system. In preparation for the use of anti-amyloid therapies, a standardized reporting template has been made available to all radiologists; the template provides, by using AutoHotKey, the classification of ARIA-H, ARIA-E, its severity grading, and structural reporting that includes localization, size, progression and clinical correlation.

Standardized imaging and reporting practices are foundational to accurate ARIA detection, timely intervention, and improved safety outcomes during anti-amyloid therapy. Standardized reporting templates, such as those developed by the American Society of Neuroradiology, help ensure consistent communication and clinical decision-making. Local adaptation of these templates, as seen at institutions in South Korea and Singapore, can support continuity of care, especially in multi-hospital systems.

3.5. Management and risk mitigation strategies for ARIA

Effective management of ARIA begins with a structured, proactive approach encompassing pre-treatment risk assessment, ongoing monitoring, and severity-based intervention strategies (Fig. 1).

3.5.1. Pre-treatment risk mitigation and ARIA management

A thorough pre-treatment evaluation forms the cornerstone of ARIA

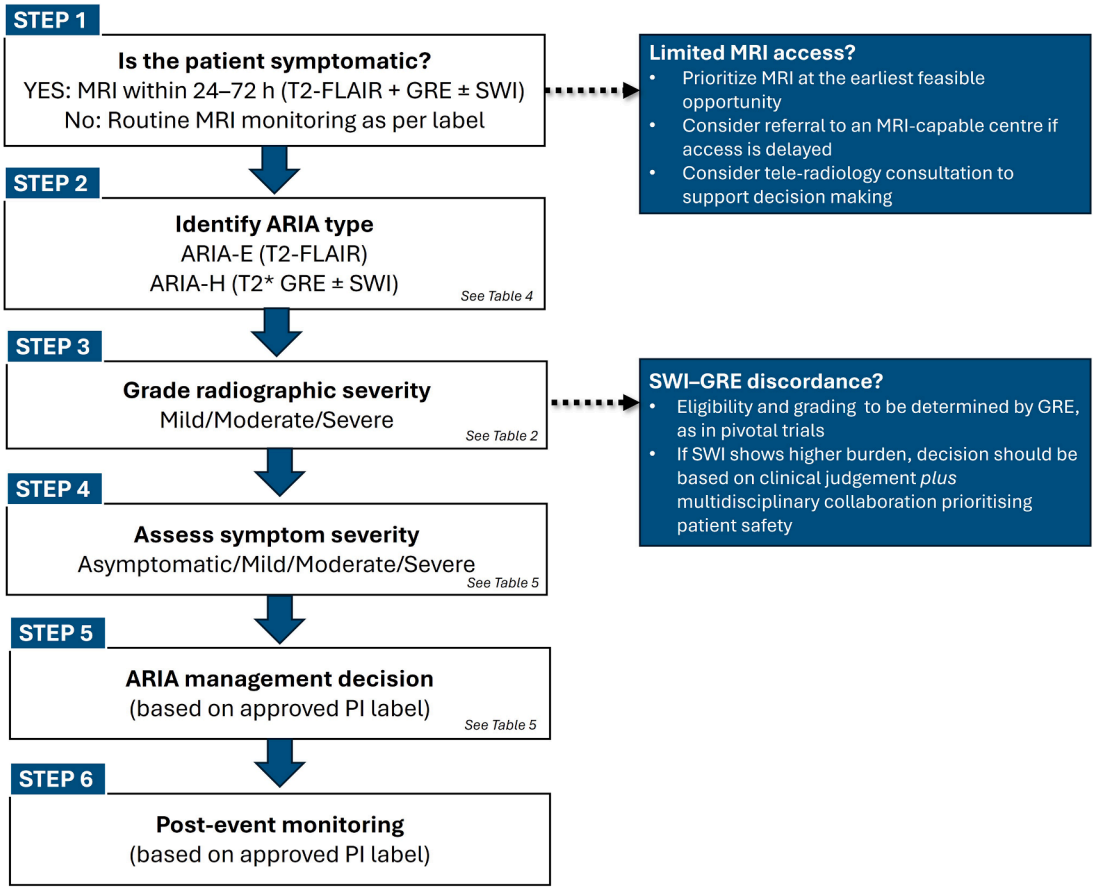

Fig. 1. Algorithm for ARIA detection and management in Asia.
ARIA-E/H: amyloid-related imaging abnormalities-edema or effusions/hemorrhage (including superficial siderosis); FLAIR: fluid-attenuated inversion recovery; GRE: gradient recalled echo; MRI: Magnetic Resonance Imaging; PI: prescribing information; SWI: susceptibility weighted imaging

risk mitigation. A baseline MRI scan must be conducted within 12 months prior to initiating anti-amyloid therapy (or as per product labels) to detect any pre-existing cerebral microhemorrhages or superficial siderosis that may predispose the patient to ARIA. Risk stratification should account for genetic factors such as APOE ε4 carrier status, as well as demographic and clinical variables including age, frailty, history of cerebrovascular disease, and use of concomitant medications like anti-coagulants or antiplatelet agents.

Clear, culturally tailored communication, ideally in the patient's local language, should address the purpose of APOE genotyping, the nature of ARIA, potential symptoms, and the need for scheduled MRI scans. Documenting baseline cognitive and functional status is recommended to facilitate early recognition of treatment-emergent neurologic changes.

3.5.2. *Ongoing monitoring and clinical surveillance*

Routine monitoring is critical during the initial months of treatment. Monitoring MRI scans should be performed as recommended in the specific label and as clinically indicated in response to emergent symptoms, using standardized imaging protocols and reporting templates. In addition to neuroimaging, regular clinical assessments are necessary to detect subtle signs of ARIA, including headache, confusion, visual disturbances, dizziness, and gait instability. Cognitive and functional assessments should be integrated into the monitoring schedule to contextualize any neurologic changes and guide clinical decisions regarding treatment continuation or suspension.

3.5.3. *Severity-based management of ARIA events*

ARIA should be managed according to severity as outlined in the anti-amyloid therapy labels (Table 5) [32,33]. In cases of radiologically mild asymptomatic ARIA detected on MRI, treatment with anti-amyloid therapies may be continued in conjunction with careful symptom monitoring and periodic MRI follow-up until resolution or stabilization, as per AUR recommendations (ARIA-E requires complete radiologic resolution; ARIA-H requires stabilization on two follow-up MRIs) [16,17]. Moderate cases of ARIA, particularly if symptomatic, will require temporary treatment suspension and more frequent imaging follow-up [16,17,32,33]. Severe ARIA necessitates immediate discontinuation of therapy, symptomatic management, and a cautious reassessment of treatment suitability [16,17.32,33]. Standardized algorithms and decision trees should be incorporated into label recommendations to ensure consistency across centers. Furthermore, decision-making should integrate MRI findings, clinical symptoms, and patient tolerability, ensuring that interventions are balanced between therapeutic benefit and safety considerations.

3.5.4. *Risk communication with patients and caregivers*

Shared decision-making is central to anti-amyloid therapy initiation. As the first disease-modifying agents demonstrate slowing cognitive decline in patients with early AD, anti-amyloid therapies may potentially redefine AD therapeutics, and patients and their families or caregivers will play a central role in the decision-making process surrounding these therapies. To participate meaningfully, they must be armed with clear, accurate, and accessible information about the potential benefits, risks, such as ARIA, and uncertainties associated with treatment. Treating physicians should spend adequate time with patients and their caregivers in the initial consultations to explain what to expect from treatment, the need and implications of APOE4 genotyping,

Table 5
Dosing recommendations for patients with ARIA-E and ARIA-H based on ARIA severity and clinical symptoms [32,33].

	ARIA-E severity[b]		
Clinical symptom severity[a]	Mild	Moderate	Severe
Asymptomatic	Continue dosing	Suspend dosing[c]	Suspend dosing[c]
Mild	Continue based on clinical judgement	Suspend dosing[c]	Suspend dosing[c]
Moderate or severe	Suspend dosing[c]		
	ARIA-H severity[b]		
Clinical symptom severity[a]	Mild	Moderate	Severe
Asymptomatic	Continue dosing	Suspend dosing[c]	Suspend dosing[d]
Symptomatic	Suspend dosing[c]		

ARIA-E/H: amyloid-related imaging abnormaties-edema or effusions/hemorrhage (including superficial siderosis).

[a] Clinical symptom severity categories: Mild - discomfort noticed, but no disruption of normal daily activity; Moderate - discomfort sufficient to reduce or affect normal daily activity; Severe - incapacitating, with inability to work or to perform normal daily activity.

[b] See Table 2 for classification of MRI severity.

[c] Suspend until MRI demonstrates radiologic resolution and symptoms, if present, resolve; consider a follow-up MRI to assess for resolution 2 to 4 months after initial identification. Resumption of dosing should be guided by clinical judgment.

[d] Suspend until MRI demonstrates radiologic stabilization and symptoms, if present, resolve; use clinical judgment in considering whether to continue treatment or permanently discontinue treatment.

the risk and implications of ARIA, and the requirement for MRI monitoring in the first year of therapy. These discussions become particularly relevant, yet challenging, in frail patients and in those with low literacy or limited caregiver support.

ARIA risk disclosure also raises ethical considerations, and clinicians must strike a balance between transparency and reassurance to foster informed consent without heightening treatment hesitancy. In many Asians settings, where family involvement is central to healthcare decisions, and stigma around dementia is prevalent, culturally sensitive, family-inclusive communication is essential [18].

3.5.5. Pharmacovigilance and real-world data collection in asia

RCTs for anti-amyloid therapies involve strict eligibility criteria, limited treatment durations, and intensive monitoring protocols, and as a result, the generalizability of their findings to routine clinical practice may be limited [43–45]. To bridge this gap, high-quality real-world evidence, especially in the context of safety of anti-amyloid therapies, is essential to support informed decision-making by clinicians, patients, caregivers, healthcare systems, payers, and policymakers, for the clinical use of these therapies [43,44]. This need is particularly pronounced in Asia, where populations have been under-represented in pivotal clinical trials [29]. Post-marketing surveillance studies can capture real-world evidence, complementing clinical trial data by reflecting the effects of anti-amyloid therapies in diverse Asian patient populations, including those who may not have been represented in pivotal trials. Registries and longitudinal cohort studies can also be used to track treatment responses over longer periods of time, refine risk stratification models and optimize ARIA management strategies.

Regulatory agencies in Asia will be responsible not only for the initial assessment and approval of anti-amyloid therapies locally but also for establishing robust pharmacovigilance frameworks that monitor safety and efficacy of these therapies in real-world settings. In collaboration with healthcare institutions, pharmaceutical companies and research organizations, regulatory agencies can play an important role in establishing regional pharmacovigilance networks which can function as hubs where doctors can report side effects, imaging results, and how patients are responding to the treatments. Cross-border collaboration among agencies can ensure alignment of safety monitoring practices and reporting standards, thereby enabling local regulators to detect trends and issue guidance updates when necessary. Developing regional databases with built-in tools for consistent reporting could help doctors log MRI scans, clinical notes, and side effects in a uniform way. This would improve how ARIA is tracked across different healthcare systems in Asia. Also, aligning these databases with global standards while keeping local needs in mind would strengthen pharmacovigilance across the region.

Pharmacovigilance and real-world data collection efforts play a crucial role in supporting the safe and effective use of anti-amyloid therapies for AD in Asia. Regulatory frameworks must be regionally adapted to account for differences in healthcare infrastructure and resources, ethnic variations, and accessibility constraints. Regulatory agencies, healthcare institutions, pharmaceutical companies and researchers must work together to establish standardized safety monitoring practices, refine treatment protocols, and expand real-world evidence through registries and longitudinal studies locally as well as regionally. Such coordinated efforts will help mitigate ARIA risks, improve patient outcomes, and support evidence-driven policy decisions for the broader implementation of anti-amyloid therapies across diverse healthcare settings in Asia.

3.6. How our framework differs from western recommendations

While grounded in global AUR's, our framework integrates considerations unique to Asian healthcare systems (Table 6). These include (i) greater heterogeneity in MRI access and imaging standardization across urban and rural settings; (ii) lower overall frequency of APOE ε4 allele across many Asian populations, with notable variation by ethnicity; (iii) higher prevalence of cerebral small-vessel disease and white-matter hyperintensities which may influence baseline ARIA risk, and (iv) greater reliance on family centric decision-making and cultural differences in approaches to risk communication.

Our framework integrates regional considerations with global standards, not to replace Western recommendations, but to align them within a practical and scalable model suited to the diverse realities of Asian clinical environments.

4. Measures for healthcare system preparedness, education and capacity building

4.1. Multidisciplinary collaboration and capacity building

As awareness grows around the benefits of early intervention in AD and the benefit provided by novel anti-amyloid therapies, and as these therapies become increasingly available for clinical use, more individuals are likely to pursue consultation for their subjective cognitive concerns, placing additional demand on an already burdened healthcare system. Multi-disciplinary collaboration will be essential across the care continuum, from the early diagnosis to treatment delivery and long-term monitoring. Table 7 outlines the potential roles and responsibilities of various disciplines in delivering anti-amyloid therapies safely and efficiently to eligible patients.

Radiology services are expected to face greater demands due to the need for amyloid imaging, baseline MRI assessments to rule out contraindications, and ongoing safety monitoring. Neuroimaging practices across diverse healthcare settings in Asia will need significant strengthening, not only in terms of expanding imaging capacity, but also by improving operational workflows, standardizing protocols, and ensuring timely access to imaging for diagnosis and monitoring. Capacity-building initiatives should focus on expanding imaging infrastructure, enhancing coordination between referring clinicians and imaging centers, training personnel, and integrating neuroimaging into

Table 6
Comparison of Western recommendations and Asian practice variations with harmonization strategies in the proposed framework.

Dimension	Western recommendations (AUR/FDA/EMA)	Asian practice variations	Harmonization by the proposed framework
MRI availability	Universal MRI infrastructure assumed	Uneven access; limited availability outside major cities	Minimum sequences defined; allowance for tiered scanning pathways and referral
Radiology expertise	ARIA is managed mainly by dedicated neuroradiologists	Variable experience with ARIA reporting	Reporting templates and training workshops across centers recommended
GRE versus SWI	GRE is reference standard in trials and AUR	SWI commonly used in Korea/Taiwan/Singapore	GRE required for assessing eligibility/severity; SWI can be optional/supplementary
APOE ε4 testing	Routinely available	Limited access/variability in cost	Testing encouraged
Patient communication	Mostly patient-centric and autonomous	Culturally variable; family-centric	Culturally tailored risk counseling and shared decision-making approaches recommended

ARIA: Amyloid-related Imaging Abnormalities; AUR: Appropriate Use Recommendation; EMA: European Medicines Agency; FDA: Food and Drug Administration; GRE: gradient-recalled echo; MRI: Magnetic Resonance Imaging; SWI: susceptibility-weighted imaging.

Table 7
Roles and responsibilities of clinicians in cross-disciplinary collaboration for the safe and effective delivery of anti-amyloid therapies.

Role	Responsibility
Neurologists and dementia specialists (Care coordinator)	Patient selection for anti-amyloid therapies Regular monitoring by scheduled MRIs and correlating with clinical symptoms at every infusion Serving as a checkpoint and coordinating with primary care physicians, radiologists, emergency department, stroke specialists –assessing available information and evaluating the risk-benefit ratio, risk of ARIA, risk of stroke etc., and making final treatment decisions Serving as the hotline between healthcare professionals and patients/family members Patient counseling
Radiologists (ARIA detector)	Performing the baseline scan, the monitoring scans, the scans for symptomatic patients Making sure that the protocols for the scans are specific, classified and consistent across the patient's journey, and making sure that the findings are reported accurately and consistently Consistent and prompt communication with the neurologists Educating general radiologists – disseminating the know how – ARIA detection training and education, preferably through case-based learning Involvement in the development of promising imaging tools to help early detection and risk stratification of ARIA
Geriatricians and psychiatrists (Care coordinator)	When anti-amyloid therapies are more established, these specialists can ensure that the patient qualifies for anti-amyloid therapies in terms of the diagnosis – this will reduce the downstream burden on the neurologists and radiologists
Emergency physicians and stroke specialists (Acute management)	Managing unexpected symptomatic ARIA or stroke when the patient presents in the emergency department Recognizing that patient is on anti-amyloid therapy and communicating urgently with the treating neurologist
Nursing and para-medical staff (Counseling)	Educate patients about the symptoms of ARIA and on what to do if they have symptoms.
Primary care physicians (Referral to specialists)	Counsel patients on key elements of treatment with anti-amyloid therapies, such as APOE risk. Manage patients who have received anti-amyloid therapies once they are referred back – be aware of expected course and complications, manage comorbidities such as hypertension, efficiently, look for risk factors that might increase the risk of ARIA

streamlined care pathways.

4.2. Communication

Establishing effective communication channels between prescribing physicians and radiologists will be essential to ensure the safe management of patients receiving anti-amyloid therapies. Clear, structured pathways for routine information exchange, such as baseline imaging interpretations and monitoring schedules, can help streamline care. In addition, dedicated mechanisms for urgent communication should be implemented to address time-sensitive findings, such as moderate-to-severe ARIA, where prompt clinical decision-making is critical. This may include the use of secure messaging platforms, direct-call protocols, or integrated electronic health record alerts to facilitate rapid response and coordinated care. In some hospitals in South Korea, multidisciplinary meetings between neuroradiologists and neurologists are held regularly to review patients being considered for or receiving anti-amyloid therapies, with urgent communications via secure messaging platforms when ARIA is suspected. Such structured communication processes can help ensure timely decision-making and coordinated care. Frequent multidisciplinary meetings will be required as the number of patients receiving anti-amyloid therapies grows.

4.3. Training and education

The effective detection and management of ARIA requires targeted, ongoing education for both neurologists and radiologists. Despite shared expertise in brain MRI interpretation, subtle ARIA-related findings, such as mild vasogenic edema or small cortical microhemorrhages, can be challenging to identify consistently. Variability in interpretation expertise across specialties underscores the need for regular, interactive workshops that incorporate real-world cases to enhance diagnostic accuracy and foster diagnostic confidence.

Structured educational initiatives, including workshops tailored for neurologists, geriatricians, and general radiologists who may be less familiar with neuroimaging requirements for anti-amyloid therapies, should be organized to provide practical experience and promote cross-disciplinary learning. Neurologists and radiologists will benefit from cross-specialty learning, particularly in understanding each other's roles in ARIA assessment. Conferences and workshops should facilitate discussions where radiologists explain their diagnostic approach, and clinicians gain insight into the nuances of imaging interpretation.

From a radiological perspective, case-based education is particularly vital for both early-career radiologists and general radiologists who may not routinely evaluate ARIA-related imaging. Training sessions should be conducted at regular intervals – at least semi-annually – to reinforce knowledge and ensure consistency in image interpretation. As more patients receive anti-amyloid treatments, new and unexpected imaging findings may emerge, and these should be shared in educational forums to refine differential diagnoses and improve overall management

strategies.

Emergency department physicians and stroke specialists must recognize that a growing number of patients will be receiving anti-amyloid therapies. Educational initiatives aimed at enhancing their understanding of these treatments, distinguishing stroke symptoms from those of ARIA events, and providing practical strategies for managing ARIA will be valuable. Additionally, they should be aware of the importance of consulting the prescribing physician for guidance on appropriate care. When evaluating patients undergoing anti-amyloid therapy, they should not rely solely on CT scans to diagnose ARIA but also incorporate MRI in their diagnostic pathway.

Industry- and professional society-supported training initiatives will play a key role, with pharmaceutical companies providing support and information for educational programs, clinician workshops, and imaging standardization efforts to enhance detection and management strategies.

Furthermore, establishment of regional centers of excellence for education, research and clinical best practices can be considered. These centers can provide centralized expertise by offering access to advanced imaging tools, specialized radiology teams, and expert neurologists trained in ARIA management. Additionally, these centers can contribute to national registries and cohort studies, generating real-world evidence to refine anti-amyloid therapy safety and efficacy. Beyond clinical practice, they can serve as pivotal sites for emerging ARIA therapy trials, fostering collaborative research and accelerating treatment advancements that address region-specific healthcare challenges.

4.4. Patient education

Patients undergoing treatment with anti-amyloid therapies and their families or caregivers must be adequately educated about the potential symptoms of ARIA and the importance of seeking timely medical evaluation. Symptoms such as headache, confusion, dizziness, visual disturbances, or seizures may be early indicators of ARIA and should prompt immediate contact with the prescribing physician for assessment and further management.

Equally important is ensuring that patients are prepared to communicate their treatment history in emergency situations or when presenting to unfamiliar healthcare facilities. If a patient seeks care at an emergency department or a hospital other than where they receive their anti-amyloid therapy, it is essential that the attending clinicians are informed of the ongoing treatment. This awareness is critical, as the clinical and radiological presentation of ARIA may overlap with other neurological conditions, most notably stroke. Without this context, there is a risk of misdiagnosis and inappropriate management, such as the inadvertent use of anticoagulants or thrombolytics, which could worsen ARIA-related complications.

Patient education materials and caregiver guidance should therefore include clear, accessible instructions on how to recognize concerning symptoms, when to seek medical attention, and what information to communicate to healthcare providers. In regions where access to specialized care may be limited, providing patients with treatment cards or digital alerts that summarize their therapy and key risks may be an effective tool to support continuity of care and safe emergency response.

5. Future directions

Despite growing experience with anti-amyloid therapies, several important research gaps remain, offering valuable directions for future investigation.

One key area of interest is understanding why the incidence of ARIA with lecanemab appears to be lower in Asian populations compared to global data, and exploring potential contributing factors such as genetic predispositions, vascular profiles, or structural brain differences, and the role of white matter disease. The significance of the location of microhemorrhages, peripheral versus deep microhemorrhages, with regard to vulnerability for ARIA is another area that needs further study.

Imaging-related questions also warrant further research. Comparative studies evaluating SWI versus GRE imaging for ARIA detection could help inform the role of advanced imaging techniques, particularly in specialized or research settings. While GRE continues to remain the standard sequence used in clinical trials and routine monitoring protocols, ongoing studies may clarify where SWI could serve as a complementary tool.

Additionally, further research into blood-based biomarkers, including plasma GFAP, NfL, and inflammatory markers, which may play a valuable role in ARIA detection and risk prediction, are warranted. Their use could help identify ARIA more efficiently while potentially reducing reliance on MRI, particularly in healthcare settings where imaging resources are limited. Advancements in permeability imaging may provide deeper insights into the mechanisms underlying ARIA development, while quantification of cerebral vascular amyloid may deepen our understanding of ARIA pathophysiology and refine assessments of disease burden.

Finally, the integration of validated AI-based tools and centralized imaging review platforms hold substantial promise for improving consistency, speed and diagnostic accuracy of safety monitoring. AI-assisted image analysis could help standardize interpretation across centers with varying levels of radiology expertise, reduce inter-reader variability, and support early identification of subtle imaging changes. Centralized imaging review platforms, especially those included within regional ARIA centers of excellence can facilitate timely expert input for complex cases, promote consistency in treatment decisions, and enable pooled safety analyses. Development and validation of predictive algorithms and risk stratification models, incorporating imaging data, genetic markers, and clinical variables, will be critical to optimize patient selection, guide individualized monitoring strategies, and minimize adverse outcomes associated with anti-amyloid therapy in real-world settings across Asia

6. Conclusion

The safe and effective implementation of anti-amyloid therapies for early AD in Asia necessitates a regionally tailored framework for ARIA detection and management. Given the significant variations in healthcare infrastructure, imaging access, genetic predispositions and clinical expertise across Asia, a structured and yet adaptable approach is essential.

We have outlined the key considerations for ARIA detection and management, including a thorough pre-treatment risk assessment, standardized neuroimaging sequences and protocols for baseline assessment and monitoring, and severity-based intervention strategies, from an Asian perspective. Close collaboration between neurologists and radiologists is crucial for timely detection and appropriate treatment modifications. Periodic and consistent training of radiologists will be important, particularly in resource-constrained settings. Additionally, effective risk communication with patients and caregivers is necessary to support informed decision-making, especially in populations with low health literacy or limited caregiver support.

Beyond clinical management, pharmacovigilance networks and real-world data collection are vital for refining safety measures and optimizing treatment guidelines for diverse Asian healthcare settings. Multi-stakeholder collaboration, including regulatory agencies, healthcare providers, academic institutions, as well as industry, will be essential to achieve this.

Establishment of regional centers of excellence, harmonization of safety monitoring tools, and expansion of capacity-building initiatives can further ensure consistent, high-quality care. Reaching cross border consensus through regional discussions and integrating ARIA detection and management protocols into national guidelines will support care standardization and alignment with global best practices.

As the landscape of Alzheimer's therapeutics continues to evolve, ongoing research and region-specific adaptation will be key to

addressing the unique challenges of ARIA and maximizing the clinical impact of anti-amyloid therapies in Asia.

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