



Australian Government

Department of Health, Disability and Ageing

Therapeutic Goods Administration

Andrographis paniculata (Andrographis) and anaphylaxis

Supplementary report: Updated adverse event
figures to 31 December 2025

Version 1.0, March 2026

Copyright

© Commonwealth of Australia 2026

This work is copyright. You may reproduce the whole or part of this work in unaltered form for your own personal use or, if you are part of an organisation, for internal use within your organisation, but only if you or your organisation do not use the reproduction for any commercial purpose and retain this copyright notice and all disclaimer notices as part of that reproduction. Apart from rights to use as permitted by the *Copyright Act 1968* or allowed by this copyright notice, all other rights are reserved and you are not allowed to reproduce the whole or any part of this work in any way (electronic or otherwise) without first being given specific written permission from the Commonwealth to do so. Requests and inquiries concerning reproduction and rights are to be sent to the TGA Copyright Officer, Therapeutic Goods Administration, PO Box 100, Woden ACT 2606 or emailed to <tga.copyright@tga.gov.au>.

Contents

Summary	4
Background	4
Adverse Events	5
Australian adverse events	5
Australian adverse event reports	5
Reporting pattern	5
Broader search results using a Standardised MedDRA Query (SMQ)	8
Summary of Australian adverse events	8
Anaphylaxis reports following a strengthened label warning	8
International adverse events	10
World Health Organization (WHO) VigiBase	10
Key Points – adverse events	12
Risk profile	12
Other medicines associated with risk of anaphylaxis	12
Key points – risk profile	15
Conclusion	15

Summary

- This supplementary report provides updated adverse event figures for cases of anaphylaxis associated with medicines that contain *Andrographis paniculata* (Andrographis) reported to the TGA up to 31 December 2025. This report supplements the review titled '*Andrographis paniculata* (Andrographis) and anaphylaxis - Updated safety review with adverse event data to 31 December 2024', referred to hereafter as the 'Andrographis updated safety review'.
- The TGA has continued to receive a sustained high number of reports of anaphylaxis associated with Andrographis-containing medicines since 2019.
- From 2005 when the first reports of anaphylaxis associated with Andrographis-containing medicines were received by the TGA to 31 December 2025 the TGA has received 287 reports of anaphylaxis associated with Andrographis-containing medicines.
- The number of reports of anaphylaxis associated with Andrographis-containing medicines received during 2025 is consistent with 2022 and 2023 figures.
- The notable increase in reports in 2024, including a large spike in reports received in mid-2024, was discussed in the Andrographis updated safety review and likely reflects increased public awareness of this safety risk following an increase in public communication and media around this time.
- Other unknown factors that could contribute to an increase or decrease in cases include a change in medicine use, supply volume, marketing, or an increase or decrease in the occurrence of anaphylaxis relative to use.
- There has been no notable change to the adverse event reporting trends observed in the Andrographis updated safety review, including the presence or absence of Echinacea in the suspected medicines involved in anaphylaxis cases.
- The number of anaphylaxis reports for one medicine, which introduced a stronger and more prominent label warning in 2024, has remained steady apart from a period of increased reporting seen in 2024. Notably there has been no decline in anaphylaxis reports received in 2025 when compared to the most recent years (2022 and 2023) prior to the strengthened label warning. This suggests that the strengthened label warning has not effectively reduced the number of anaphylaxis cases associated with this medicine.
- Considering anaphylaxis associated with Andrographis is life-threatening, unpredictable and usually progresses rapidly, a label warning is only likely to reduce risk if it led to avoidance of the medicine, and/or to exposure only when there is ready access to emergency medical services. This is not considered appropriate for a low-risk medicine.
- The 2025 data continues to support the conclusions of the Andrographis updated safety review, including that:
 - current risk mitigation measures have not reduced the risk of anaphylaxis associated with Andrographis for it to be suitable for use as an ingredient in listed medicines.
 - available evidence does not support additional risk mitigation measures as effective options to reduce the risk of anaphylaxis from Andrographis for it to be suitable for use in listed medicines, and
 - Andrographis is associated with a risk of life-threatening anaphylaxis that is inconsistent with the low-risk regulatory framework of listed medicines.

Background

This supplementary report provides updated Australian and global adverse event data to those provided in the Andrographis updated safety review. This supplementary report considers data up to

31 December 2025, whereas the Andrographis updated safety review considered data to 31 December 2024.

For ease of comparison, subject headings from the Andrographis updated safety review have been replicated, noting that only sections with adverse event data are included in this supplementary report. Relevant excerpts have been directly replicated from the Andrographis updated safety review and updated with 2025 figures. Therefore, this report should be read alongside the Andrographis updated safety review for context.

This supplementary report does not include updated subset analyses of case narratives and adverse events compared to supply data from medicine sponsors, as was included in the Andrographis updated safety review.

Adverse events

Australian adverse events

Australian adverse event reports

The TGA first started receiving anaphylaxis reports for Andrographis-containing medicines in 2005 and to 31 December 2025, the TGA has received 1368 adverse event (AE) reports related to medicines containing Andrographis¹. The top three reaction terms were ageusia (325), anaphylactic reaction (277) and dysgeusia (236)². There were 287 cases with reported reaction terms specific to anaphylaxis: anaphylactic reaction (277), anaphylactic shock (12) and anaphylactoid reaction (2), noting that some cases included more than one anaphylaxis-specific reaction term.

Reporting pattern

Since 2019, there has been a sustained high number of case reports of anaphylaxis related to Andrographis-containing medicines up to 31 December 2025 (Figure 1). Of a total 287 reports received between 2005 and 2025, 217 (76%) were received between 2019 and 2025.

There were 48³ medicines containing Andrographis associated with the 287 total cases of anaphylaxis. Five products, supplied by one sponsor and with the same ingredient formulation and tradename, accounted for 189 (66%) cases of anaphylaxis.

As shown in Figure 1, the majority (237/287 [83%]) of the 287 anaphylaxis adverse event cases related to Andrographis are associated with medicines that also contain *Echinacea* species (Echinacea).

¹ Adverse events reported to the TGA are entered into the Adverse Event Management System (AEMS) before publication on the [Database of Adverse Event Notifications \(DAEN\)](#). Reaction terms are coded using the Medical Dictionary for Regulatory Activities (MedDRA). MedDRA is a highly specific standardised medical terminology to facilitate sharing of regulatory information internationally for medical products used by humans. It was developed by the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH). The AEMS / DAEN is a living database and is constantly updated to reflect the latest adverse event information received. The information in the AEMS / DAEN may change if follow-up information is received for an existing adverse event report, if more than one report relating to the same adverse event is identified as a duplicate and combined into a single report, and/or as part of data quality assurance activities.

² Products containing Andrographis are also required to include a label warning about taste disturbance.

³ The number of medicines refers to individual tradenames in the AEMS. This includes medicines with the same tradename but different ARTG (AUST) numbers, and where the suspected medicine was reported as Andrographis, but with insufficient detail to identify the medicine tradename. The suspected medicine in these latter cases has been coded in the AEMS as 'Trade name not specified (*Andrographis paniculata*)' and counted here as a single tradename.

However, the total number of cases (35/287 [12%]) that involved multi-ingredient Andrographis-containing medicines without Echinacea, along with an additional 15 anaphylaxis reports (15/287 [5%]) received for single active ingredient Andrographis-containing medicines⁴, continues to confirm a signal for the ingredient Andrographis.

This is also supported by the far smaller number of anaphylaxis cases related to medicines containing Echinacea without Andrographis present in the medicine. There have been 8 anaphylaxis reports involving Echinacea in multi-ingredient medicines (no Andrographis, or no Andrographis in a co-suspected medicine) and 2 anaphylaxis reports that involved medicines with Echinacea⁵ as the only active ingredient received by the TGA since 2005 (up to 31 December 2025).

In summary, of the total 287 anaphylaxis reports for Andrographis, 83% (237/287) involved medicines that contained both Andrographis and Echinacea, 12% (35/287) involved multi-ingredient Andrographis-containing medicines that did not contain Echinacea and 5% (15/287) contained Andrographis as a single active ingredient.

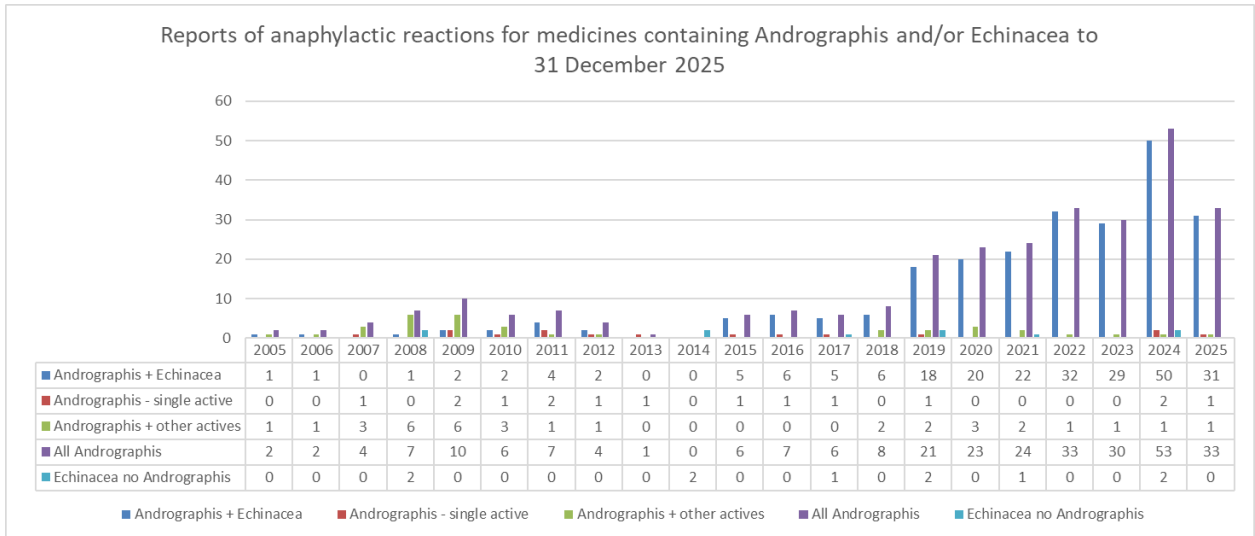
While the majority of reports received by the TGA in 2025 involved medicines that contained both Andrographis and Echinacea, one report involved a multi-ingredient medicine that did not contain Echinacea. This highlights that anaphylaxis cases that do not involve Echinacea continue to be reported, and that the risk of anaphylaxis applies to Andrographis-containing medicines that do not contain Echinacea.

The proportion of anaphylaxis reports involving medicines that contain both Andrographis and Echinacea is slightly higher for data up to 31 December 2025 (83% [237/287]) than for data up to 31 December 2024 (81% [206/254]). The reason for this is not clear and could relate to supply volumes, however as noted above, subset analyses (including consideration of updated medicine supply data) were not conducted as part of this supplementary report. The Andrographis updated safety review reported that the proportion of anaphylaxis cases involving medicines with certain formulation types was largely consistent the proportion of supply of each formulation type. This subset analyses supported that the safety signal cannot be considered stronger for medicines containing Andrographis combined with Echinacea or other active ingredients, compared with single active ingredient Andrographis medicines, once supply data is taken into consideration.

⁴ This figure was derived from 12 cases with known tradenames and 3 with insufficient detail to identify the tradename, but that were reported as Andrographis. The suspected medicine in these 3 cases has been coded in the AEMS as 'Trade name not specified (*Andrographis paniculata*)'.

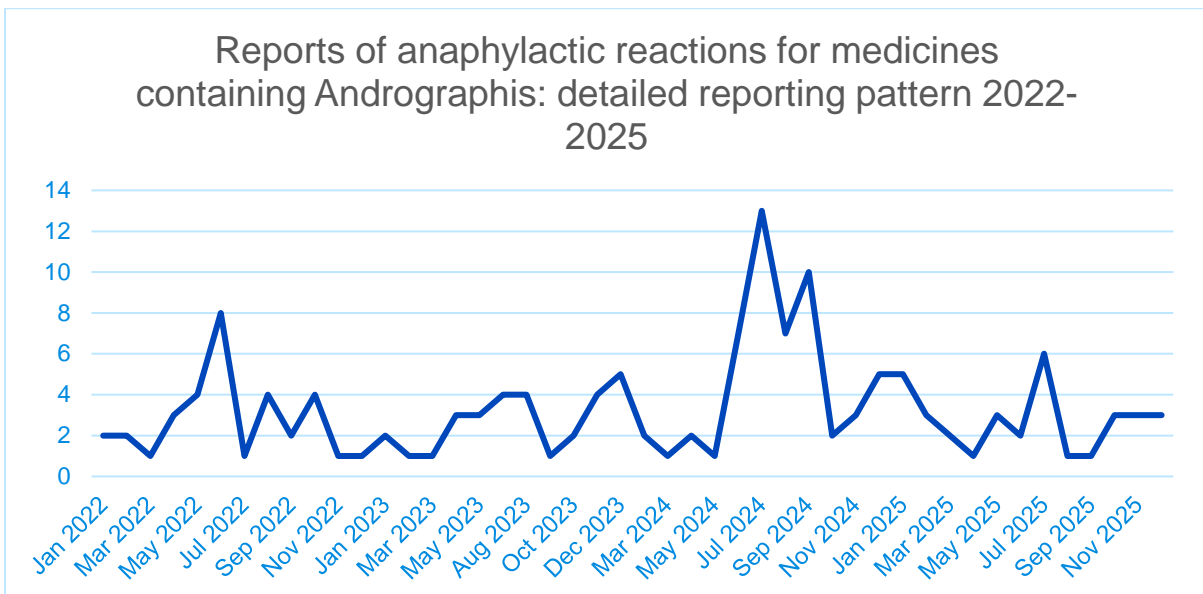
⁵ The suspected medicines in these 2 cases were reported as 'Echinacea', which have been coded in the AEMS as 'Trade name not specified (*Echinacea* sp.)'.

Figure 1. Reports of anaphylactic reactions for medicines containing Andrographis and/or Echinacea to 31 December 2025⁶.



The number of anaphylaxis reports in 2025 is consistent with 2022 and 2023 figures and continues to reflect sustained high reporting since 2019. This is further evident in Figure 2 below which shows the reporting pattern in more detail across the years 2022 to 2025, for anaphylaxis reports associated with Andrographis. The number of anaphylaxis reports through these years has remained largely steady other than a large spike in reports in mid-2024. As discussed in the Andrographis updated safety review, the notable increase in reports in mid-2024 likely reflects stimulated adverse event reporting due to increased public awareness of this safety risk following public communication and media around this time.

Figure 2. Reports of anaphylactic reactions for medicines containing Andrographis: detailed reporting pattern 2022 to 2025.



⁶ Figure 1 provides the number of reports since 2005 as this was the first year that anaphylaxis reports associated with Andrographis-containing medicines were received by the TGA.

Broader search results using a Standardised MedDRA Query (SMQ)

The TGA AEMS was also searched using standardised MedDRA queries (SMQs) for anaphylactic reactions and anaphylactic/anaphylactoid shock conditions for cases up to 31 December 2025 associated with Andrographis. SMQs are tools developed by MedDRA/ICH to facilitate retrieval of cases coded with reaction terms that could be considered consistent with a reaction or condition under investigation. Using the two anaphylaxis-related SMQs, 728 cases were identified. Amongst these cases, the top four reaction terms were anaphylactic reaction (277), pruritis (232), urticaria (187) and rash (154).

Similarly, TGA AEMS was searched using the SMQ hypersensitivity for cases reported during the same period for medicines containing Andrographis. 751 cases were identified. Amongst these cases, the top 4 reaction terms were anaphylactic reaction (277), pruritis (232), urticaria (187) and hypersensitivity (185).

Summary of Australian adverse events

There has been a sustained high reporting trend for the number of Andrographis-associated anaphylaxis cases received by the TGA between 2019 and 31 December 2025, with 76% (217/287) of total reports received during this time.

The number of reports received year to year has remained largely consistent since 2019, except for a large increase in the number of reports received in 2024. As discussed in the Andrographis updated safety review and supported by Figure 2 above, it is thought that the most plausible explanation for this increase in 2024 alone is stimulated adverse event reporting in mid-2024 due to increased public awareness of this safety risk following public communication and media. Other unknown factors that can result in a change to the number of anaphylaxis reports from year to year include changes to medicine use, medicine supply, marketing, and/or that the number of cases relative to supply has increased or decreased. As evidenced in Figures 1 and 2 (above) and Figures 3 and 4 (below), the number of reports of anaphylaxis for medicines containing Andrographis in 2025 has not remained at the increased level observed in 2024 but has remained largely consistent with figures seen in 2022 and 2023, showing a sustained high reporting trend.

The majority of anaphylaxis cases involved medicines with both Andrographis and Echinacea; there were 31 different Andrographis-containing medicines⁷ for which anaphylaxis cases were reported that also contained an Echinacea ingredient. Echinacea is also associated with allergic reactions. However, although we did not consider sponsor supply data as part of this supplementary review, it is reasonable to expect based on data analysed in the Andrographis updated safety review, that supply of these Andrographis-Echinacea combination medicines in 2025 was also far higher than supply of medicines containing Andrographis without Echinacea. Up to 31 December 2025, 17% (50/287) of Andrographis-related anaphylaxis cases involved medicines that did not contain Echinacea. Since 2005 there have only been 10 anaphylaxis cases reported to the TGA involving medicines that contain Echinacea without Andrographis. This indicates that Echinacea was not the primary causative factor in the anaphylaxis adverse events observed for Andrographis-containing medicines.

The updated adverse event data in this supplementary report further support the conclusions of the Andrographis updated safety review; current risk mitigation measures, or additional measures of increased public messaging, restrictions on formulations or a stronger/ more prominent label warning (see below), are unlikely to reduce the risk of anaphylaxis associated with Andrographis for it to be suitable for inclusion as an ingredient in listed medicines.

Anaphylaxis reports following a strengthened label warning

In July / August 2024, one medicine sponsor applied a stronger label warning to their Andrographis-containing medicine as a further safety measure. The warning was positioned prominently on the front

⁷ The number of medicines refers to individual tradenames in AEMS. This includes medicines with the same tradename but different ARTG (AUST) numbers.

label in contrasting text. The medicine is advertised as being only available after a consultation with a healthcare professional in pharmacies, health food stores or in a clinic. If supplied solely under these conditions, there may be opportunity for additional risk communication to consumers at the point of sale.

The number of anaphylaxis reports for this medicine in 2025 remains consistent with the high number of anaphylaxis reports for this medicine in 2022 and 2023 prior to the introduction of the strengthened label warning in 2024, as seen in Figures 3 and 4 below. Figure 3 shows the total number of anaphylaxis reports received by the TGA for this medicine with the first reports received in 2011, while Figure 4 shows the reporting pattern in more detail across the years 2022 to 2025.

While the higher number of reports in 2024 is likely explained by stimulated reporting following an increase in public messaging and media, it remains possible that the label warning led to an initial increase followed by a reduction in reports back to levels seen prior to the stronger label warning. However, it is not known if the stronger warning has impacted volumes of supply and use.

Considering anaphylaxis associated with Andrographis is life-threatening, unpredictable and usually progresses rapidly, a label warning is only expected to reduce the number of reports if it leads to general avoidance of an Andrographis-containing medicine. If a label warning led to more cautious exposure, where an Andrographis-containing medicine is only used when emergency medical services are readily available, the number of cases is not expected to significantly decrease, however serious outcomes may be reduced. Either scenario, i.e. avoidance or reliance on emergency care, is not considered appropriate for a low-risk listed medicine.

This further supports the conclusions of the Andrographis updated safety review; that available evidence does not support strengthened label warnings as an effective option to reduce the risk of anaphylaxis from Andrographis for it to be suitable for inclusion as an ingredient in listed medicines.

Figure 3. Total anaphylaxis cases reported to the TGA for a medicine with strengthened label warnings applied in 2024.

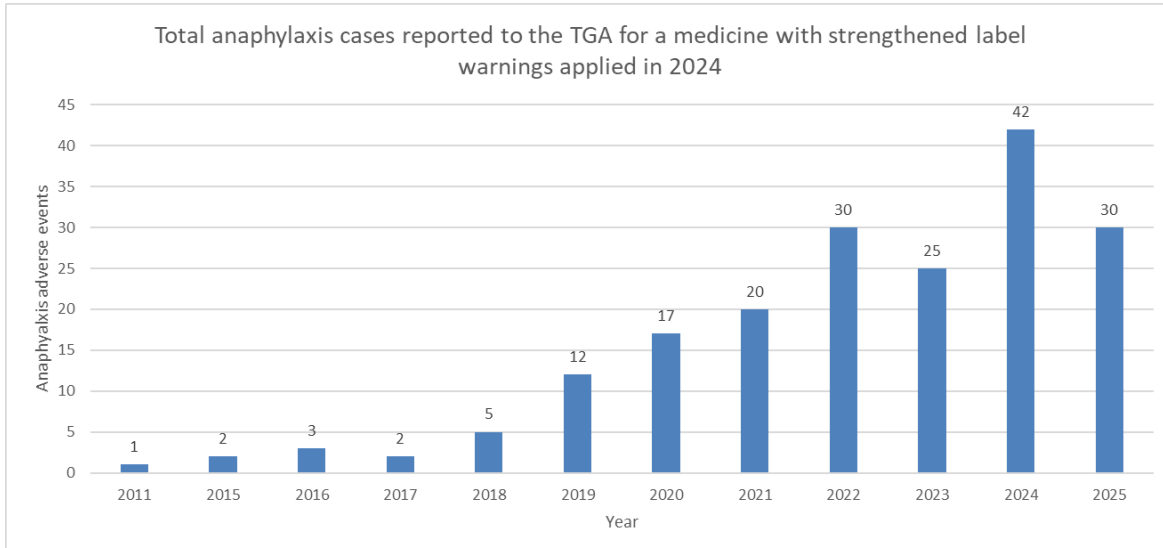
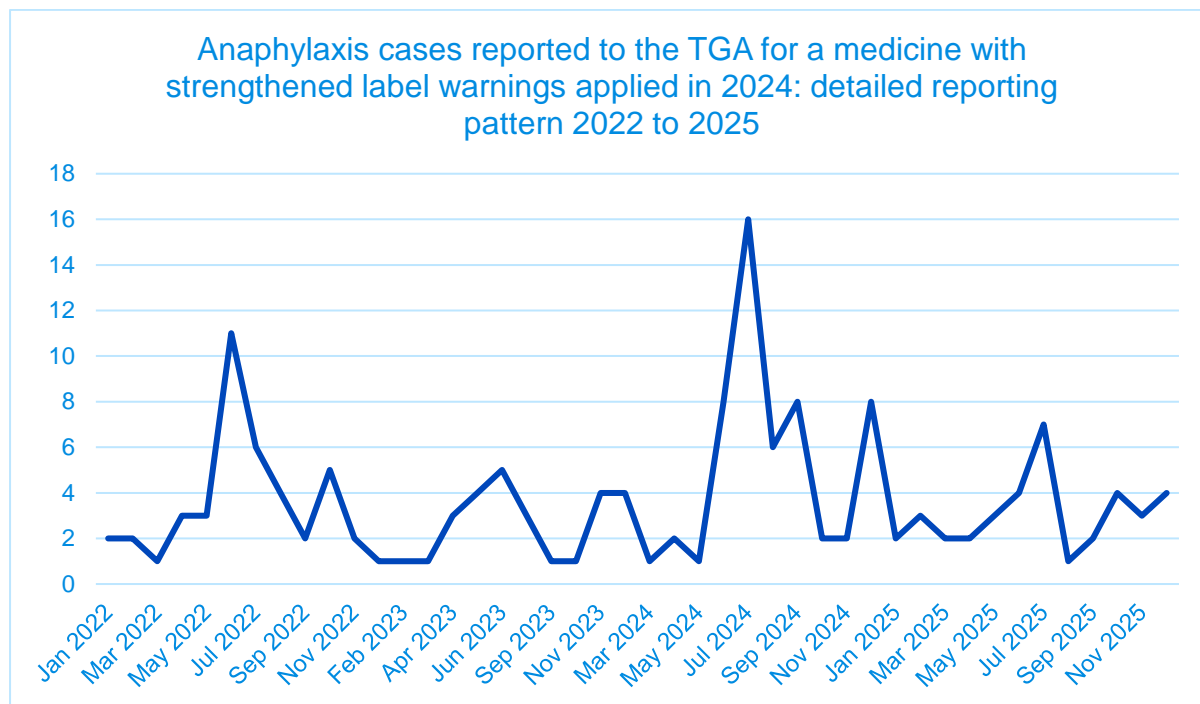


Figure 4. Anaphylaxis cases reported to the TGA for a medicine with strengthened label warnings applied in 2024: detailed reporting pattern 2022 to 2025.



International adverse events

World Health Organization (WHO) VigiBase

A review of the World Health Organization's (WHO) VigiBase⁸ data up to 31 December 2025 identified 55 cases of anaphylactic reaction, anaphylactic shock, anaphylactoid reaction or anaphylactoid shock that involved oral⁹ Andrographis as the sole suspected single ingredient, excluding Australian cases.

Although the number of anaphylaxis cases for sole suspected oral Andrographis appears quite low, VigiBase data up to 31 December 2025 showed positive disproportionality scores for Andrographis and the adverse events anaphylactic reaction (3.5) and anaphylactic shock (2.3) using the information component model and its lower limit of a 95% credibility interval (IC⁰²⁵)^{10,11}. This indicates a higher-than-expected number of reports when considering all reported reactions for Andrographis, all reports of anaphylactic reaction or anaphylactic shock for all active ingredients, and all reactions for all

⁸ VigiBase is the WHO global database of reported potential side effects of medicinal products, developed and maintained by Uppsala Monitoring Centre (UMC). Information in VigiBase comes from a variety of sources, and the probability that the suspected adverse effect is drug-related is not the same in all cases. The information does not represent the opinion of the UMC or the WHO.

⁹ Many cases did not include a route of administration, therefore limiting case numbers to those that reported 'oral' is likely an understatement of actual case numbers associated with oral use.

¹⁰ It should be noted that the IC does not imply causality, but an IC value that increases over time and a positive IC⁰²⁵ value suggests a connection between the drug and adverse reaction based on reporting to VigiBase. Alternative explanations for the positive IC need to be considered and clinical assessment remains essential ([Uppsala Monitoring Centre, 2016](#)).

¹¹ The READUS-PV guidelines and checklist were considered when utilising disproportionality data: [The Reporting of a Disproportionality Analysis for Drug Safety Signal Detection Using Individual Case Safety Reports in Pharmacovigilance \(READUS-PV\): Development and Statement | Drug Safety | Springer Nature Link](#) and [Table 3 | The Reporting of a Disproportionality Analysis for Drug Safety Signal Detection Using Individual Case Safety Reports in Pharmacovigilance \(READUS-PV\): Development and Statement | Drug Safety | Springer Nature Link](#).

ingredients. It should be noted that these disproportionality scores were based on all routes of administration, were not limited to the oral route and were based on reports for all geographical locations including Australia. These figures remain the same as summarised in the Andrographis updated safety review for data up to 31 December 2024.

A search of VigiBase data up to 31 December 2025 was also performed for oral¹²**Error! Bookmark not defined.** use of *Echinacea* species (*Echinacea angustifolia*, *Echinacea purpurea*, *Echinacea pallida*, *Echinacea* spp.) which identified 4 cases of anaphylactic reaction, anaphylactic shock, anaphylactoid reaction or anaphylactoid shock where *Echinacea* was the single suspected ingredient. None were Australian cases.

The only positive IC⁰²⁵ disproportionality score for any *Echinacea* spp. and adverse event terms specific to anaphylaxis was *Echinacea purpurea* and anaphylactic shock (1.1). There was no disproportionate reporting for other *Echinacea* species and adverse event terms specific to anaphylaxis. Adverse event figures and disproportionality figures for *Echinacea* remain the same as summarised in the Andrographis updated safety review for data up to 31 December 2024.

Therefore, international adverse event data up to 31 December 2025 indicates that disproportionate reporting for anaphylactic reactions (3.5) and anaphylactic shock (2.3) for single ingredient Andrographis products is greater than for *Echinacea*, which only showed disproportionately high reporting for anaphylactic shock with *Echinacea purpurea* (1.1), and with a lower IC⁰²⁵ disproportionality score than for Andrographis.

A broader search of VigiBase data up to 31 December 2025 for Andrographis and andrographolide using SMQs Anaphylactic reaction (Broad) and Anaphylactic/anaphylactoid shock conditions (Broad) identified 405 case reports involving oral¹² use of Andrographis or andrographolide, excluding Australian cases¹³. This shows there were far more cases globally that were possibly related to anaphylaxis than those reported with anaphylaxis-specific reaction terms alone.

Of the 405 cases, 363 involved Andrographis as the sole suspected single ingredient¹⁴. Of the 363 cases:

- 57 were characterised as serious:
 - 5 of these were reported as life threatening,
 - 45 caused or prolonged hospitalisation,
 - 7 were reported as other medically important condition,
- 158 cases reported 'no' to serious (in response to a yes/no field on the reporting form),
- 148 cases did not report on the seriousness,
- no cases reported a fatal outcome.

Two of the 405 cases were reported to involve oral andrographolide, and in both cases this was the sole suspected single ingredient. One case was reported as serious with 'Caused/prolonged hospitalisation'. The other reported the seriousness criteria as 'no'.

¹² Many cases did not include a route of administration, therefore limiting case numbers to those that reported 'oral' is likely an understatement of actual case numbers associated with oral use.

¹³ Filters: Active ingredients: *Andrographis paniculata*, andrographolide, Reaction: SMQs Anaphylactic reaction (Broad) and Anaphylactic/anaphylactoid shock conditions (Broad), Country of primary source: Australia unchecked, Route of admin: oral checked, Suspected duplicate reports excluded, data up to 31 December 2025.

¹⁴ Filters as above (see Footnote 13) but with number of suspecting/interacting drugs: 1.

Key points – adverse events



- Andrographis-related anaphylaxis reports to the TGA have notably increased since 2019, with 76% (217/287) of total reports up to 31 December 2025 received since 2019.
- Although most reports are for medicines that also contain Echinacea, supply data included in the Andrographis updated safety review shows these medicines were supplied in far higher numbers than single ingredient Andrographis medicines. Notwithstanding, 50 (17%) cases involved Andrographis-containing medicines with no Echinacea. The number of anaphylaxis cases for Echinacea-containing medicines without Andrographis is low, with only 10 reports received since 2005 (up to 31 December 2025).
- There is a sustained high number of anaphylaxis cases between 2019 and 2025. The large increase in reports in 2024 suggests that heightened awareness through safety alerts and media led to increased reporting, although other unknown factors may have also possibly contributed.
- Nevertheless, the number of cases reported in 2025 is consistent with the number of cases reported in 2022 and 2023. The sustained high reporting since 2019 supports the conclusion of the Andrographis updated safety review, that current risk mitigation measures have not reduced the risk of anaphylaxis associated with Andrographis for it to be suitable for inclusion as an ingredient in listed medicines.
- The number of anaphylaxis reports has remained consistent for one medicine with stronger and prominently displayed label warnings introduced in 2024, apart from a spike in mid-2024 most likely due to stimulated reporting. The number of anaphylaxis reports for this medicine in 2025 consistent with 2022 and 2023 figures before the label warning was introduced. This further supports the conclusion of the Andrographis updated safety review, that available evidence does not support that a stronger label warning is an effective option to reduce the risk of anaphylaxis from Andrographis for it to be suitable for inclusion as an ingredient in listed medicines.
- International reporting reveals disproportionately high reporting of anaphylaxis associated with Andrographis, and at a level that is greater than that for Echinacea.

Risk profile

Other medicines associated with risk of anaphylaxis

The Andrographis updated safety review considered other medicines with a known association with anaphylaxis, including adverse event and global disproportionality figures, which have been updated below.

The TGA has not received any additional adverse reaction reports in 2025 associated with medicines containing Royal jelly, propolis or pollen. Therefore, adverse reaction numbers remain the same for these types of medicines as summarised in the Andrographis updated safety review.

The Andrographis updated safety review included Australian adverse event figures and global data for other medicines associated with anaphylaxis: Echinacea, ibuprofen, acetyl salicylic acid (aspirin), paracetamol, amoxicillin and moxifloxacin¹⁵. Updated figures are provided below.

Table 1 provides the total number of Australian anaphylaxis adverse events recorded in the AEMS database up to 31 December 2025 for each ingredient where only a single suspected medicine (or sole suspected medicine) was involved in the reaction. This includes where the sole suspected medicine contained the ingredient as the only active ingredient or when present with other active ingredients in the suspected medicine formulation. Additional details are provided about the number cases that did and did not involve Echinacea combined with Andrographis.

Table 1. Comparison of Australian adverse events for ingredients associated with anaphylaxis

Drug name	No. anaphylaxis ¹⁶ reports in AEMS – sole suspected medicine reports only
Andrographis	276
- Andrographis with Echinacea	(227)
- Andrographis without Echinacea	(49)
<i>Echinacea angustifolia</i> , <i>Echinacea purpurea</i> , <i>Echinacea pallida</i> and/or <i>Echinacea</i> spp.	237
- Echinacea without Andrographis	(10)
aspirin & acetylsalicylic acid	41
ibuprofen	105
paracetamol	68
amoxicillin, amoxycillin, amoxicillin sodium, amoxicillin trihydrate, amoxycillin trihydrate.	446
moxifloxacin	9

Similarly, a comparison of global data reveals disproportionality scores for Andrographis that are higher than those for Echinacea and ingredients used in registered medicines known to cause anaphylaxis as shown in Table 2. This further supports the finding of the Andrographis updated safety review that Andrographis may not be appropriate for use in listed medicines.

¹⁵ Montañez MI, Mayorga C, Bogas G, Barrionuevo E, Fernandez-Santamaria R, Martin-Serrano A, Laguna JJ, Torres MJ, Fernandez TD, Doña I. Epidemiology, Mechanisms, and Diagnosis of Drug-Induced Anaphylaxis. *Front Immunol.* 2017 May 29;8:614. doi: 10.3389/fimmu.2017.00614. PMID: 28611774; PMCID: PMC5446992.

¹⁶ TGA AEMS search: all data included in the AEMS from 1971 up to 31 December 2025 was searched, sole suspect filter on, reaction terms anaphylactic shock, anaphylactic reaction, anaphylactoid shock, anaphylactoid reaction. Includes all routes of administration, noting that all Andrographis and Echinacea cases involved oral medicines only. Medicine ingredient names searched: *Andrographis paniculata*, *Echinacea angustifolia*, *Echinacea purpurea*, *Echinacea pallida* and/or *Echinacea* spp., aspirin and acetylsalicylic acid, ibuprofen, paracetamol, amoxicillin, amoxycillin, amoxicillin sodium, amoxicillin trihydrate, amoxycillin trihydrate, moxifloxacin.

Table 2. Comparison of global adverse event data and disproportionality IC⁰²⁵ values for ingredients associated with anaphylaxis up to 31 December 2025.

Drug name	No. sole suspect, single active ingredient anaphylaxis reports in VigiBase ¹⁷ (oral ¹⁸)	No. sole suspect, single active ingredient anaphylaxis reports in VigiBase (route of admin: all / not reported) ¹⁹	Disproportionality IC ⁰²⁵ values from VigiBase ²⁰
Andrographis	58	75 ²¹	Anaphylactic reaction (PT): 3.5 Anaphylactic shock (PT): 2.3
<i>Echinacea angustifolia</i> , <i>Echinacea purpurea</i> , and/or <i>Echinacea pallida</i>	4	12 ²¹	Anaphylactic shock (PT): 1.1 (<i>Echinacea purpurea</i>)
aspirin & acetylsalicylic acid	823	1877	Anaphylactic reaction (PT): 0.3
ibuprofen	2830	4220	Anaphylactic reaction (PT): 1.7 Anaphylactic shock (PT): 0.7
paracetamol	946	1732	Anaphylactic reaction (PT): 0.5 Anaphylactoid shock (PT): 0.3 Anaphylactic shock (PT): 0.1
amoxicillin, amoxycillin, amoxicillin sodium, amoxicillin	3761	6921	Anaphylactic reaction (PT): 2.3 Anaphylactic shock (PT): 2.2 Anaphylactoid reaction (PT): 0.8

¹⁷ VigiBase search: Global data up to 31 December 2025, reaction terms: anaphylactic shock (preferred term [PT]), anaphylactic reaction (PT), anaphylactoid shock (PT), anaphylactoid reaction (PT). Individual active ingredient names searched: *Andrographis paniculata*, *Echinacea angustifolia*, *Echinacea purpurea*, *Echinacea pallida*, *Echinacea* spp., acetylsalicylic acid, ibuprofen, paracetamol, amoxicillin and moxifloxacin. Number of suspecting/interacting drugs: 1, all geographical locations, suspected duplicate reports excluded, route of admin: oral. Figures are provided for adverse events involving single active ingredient suspected medicines only as VigiBase is not suitable for extracting data for multiple-ingredient medicines when there are many medicines for an ingredient, which is the case for Andrographis.

¹⁸ Many cases did not include a route of administration, therefore limiting case numbers to those that reported 'oral' is likely an understatement of actual case numbers associated with oral use.

¹⁹ VigiBase search: As above without 'Oral' filter.

²⁰ Disproportionality scores considered were IC⁰²⁵ values generated from VigiBase for global data up to 31 December 2025, calculated using all reports for all ingredients/medicines. Reaction terms: anaphylactic shock (preferred term [PT]), anaphylactic reaction (PT), anaphylactoid shock (PT), anaphylactoid reaction (PT). Individual active ingredient names searched: *Andrographis paniculata*, *Echinacea angustifolia*, *Echinacea purpurea*, *Echinacea pallida*, *Echinacea* spp., acetylsalicylic acid, ibuprofen, paracetamol, amoxicillin and moxifloxacin. Only positive IC⁰²⁵ values are reported here.

²¹ Reasons for the low number of reports globally for Andrographis and Echinacea include that VigiBase has limited search functionality for multi-ingredient medicines. Additionally, herbal medicines are mostly not regulated as medicines in other jurisdictions, therefore AE data is not collected and reported to VigiBase. Where AEs are collected for herbal medicines, ingredient level data may not be collected, particularly for multi-ingredient medicines. Nevertheless, the higher disproportionality scores for Andrographis indicates the number of anaphylaxis cases for Andrographis is disproportionately high when compared to all reactions for Andrographis, and to all cases of anaphylaxis for all ingredients relative to the total number of adverse events in the global database.

Drug name	No. sole suspect, single active ingredient anaphylaxis reports in VigiBase ¹⁷ (oral ¹⁸)	No. sole suspect, single active ingredient anaphylaxis reports in VigiBase (route of admin: all / not reported) ¹⁹	Disproportionality IC ⁰²⁵ values from VigiBase ²⁰
trihydrate, amoxicillin trihydrate.			Anaphylactoid shock (PT): 0.9
moxifloxacin	1415	3410	Anaphylactic reaction (PT): 2.4 Anaphylactic shock (PT): 2.6 Anaphylactoid reaction (PT): 2.0

Key points – risk profile



- The risk of anaphylaxis for other ingredients permitted in listed medicines that require allergy label warnings appears relatively low compared to Andrographis based on recent adverse event reporting in Australia.
- Australian adverse event data and international disproportionality adverse event data suggest the safety signal for anaphylaxis and Andrographis is greater than that for certain registered medicine ingredients known to trigger anaphylaxis, which further supports the conclusion of the Andrographis updated safety review.

Conclusion

Following a large increase in 2019, and a spike in 2024 likely due to stimulated reporting, the TGA has continued to receive a sustained high number of reports of anaphylaxis associated with Andrographis-containing medicines.

The number of cases of anaphylaxis cases reported in 2025 associated with Andrographis-containing medicines is largely consistent with the number of cases reported in 2022 and 2023.

The updated adverse event figures to 31 December 2025 provided in this supplementary report support the conclusions of the Andrographis updated safety review.

The sustained high reporting pattern since 2019 indicates that Andrographis is associated with risk of life-threatening anaphylaxis which is inconsistent with the low-risk regulatory framework for listed medicines. Current risk mitigation strategies, including stronger label warnings, have not reduced the risk of anaphylaxis from Andrographis for it to be suitable for use in listed medicines.

Version history

Version	Description of change	Author	Effective date
V1.0	Original publication	Adverse Event and Medicine Defect Section/Pharmacovigilance Branch	March 2026

OFFICIAL

Therapeutic Goods Administration

PO Box 100 Woden ACT 2606 Australia
Email: info@tga.gov.au Phone: 1800 020 653 Fax: 02 6203 1605
Web: tga.gov.au

Reference/Publication #