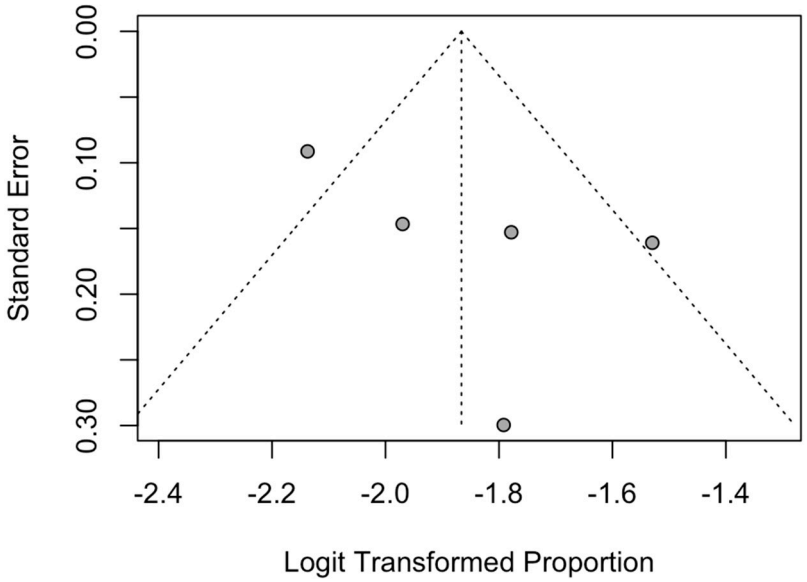
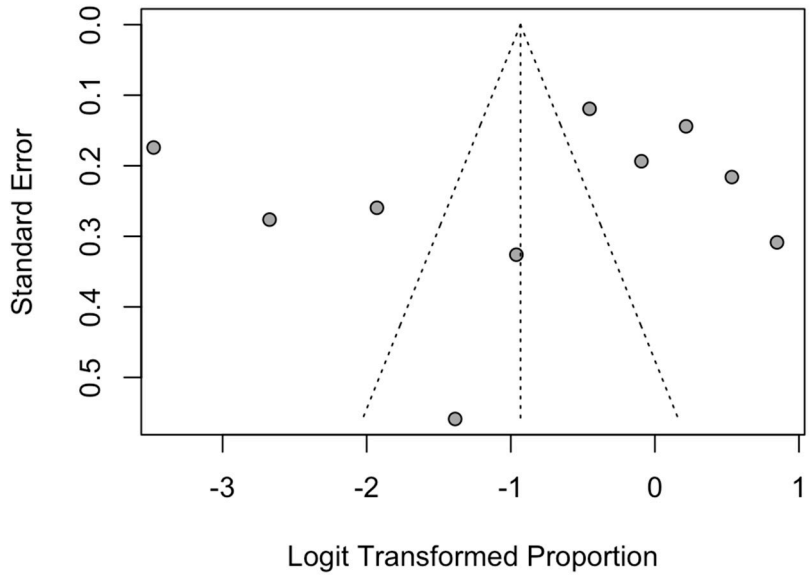
**Supplementary material**

Fig. S1 Funnel plots

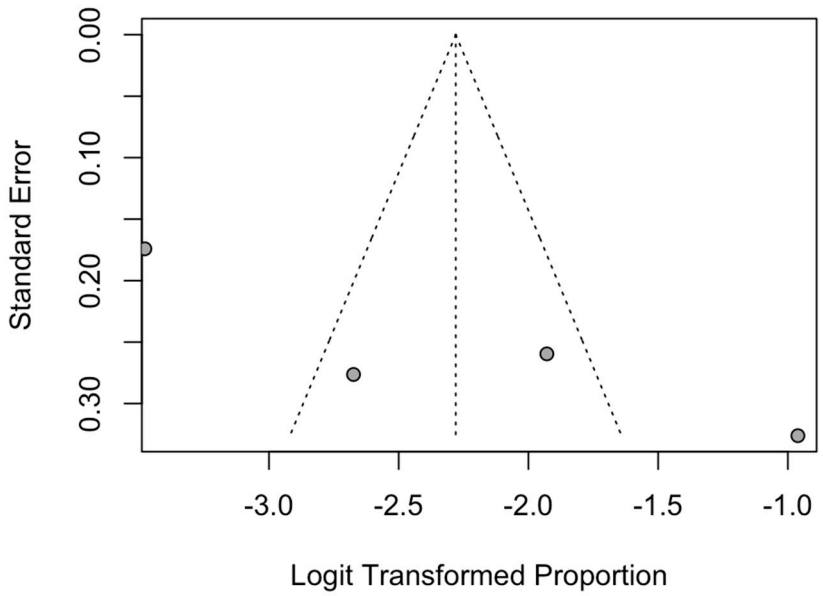
A Prevalence of cancer in patients with PH



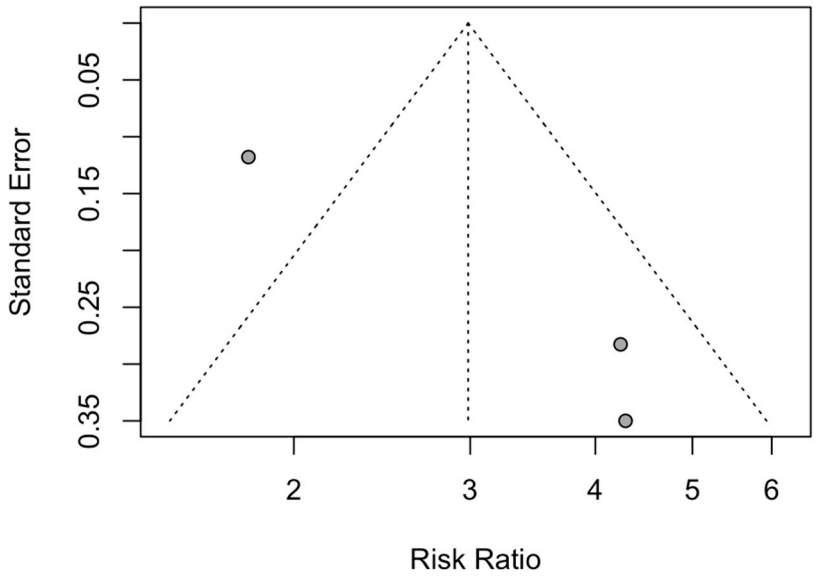

B Incidence of all-cause mortality in patients with PH with or without cancer



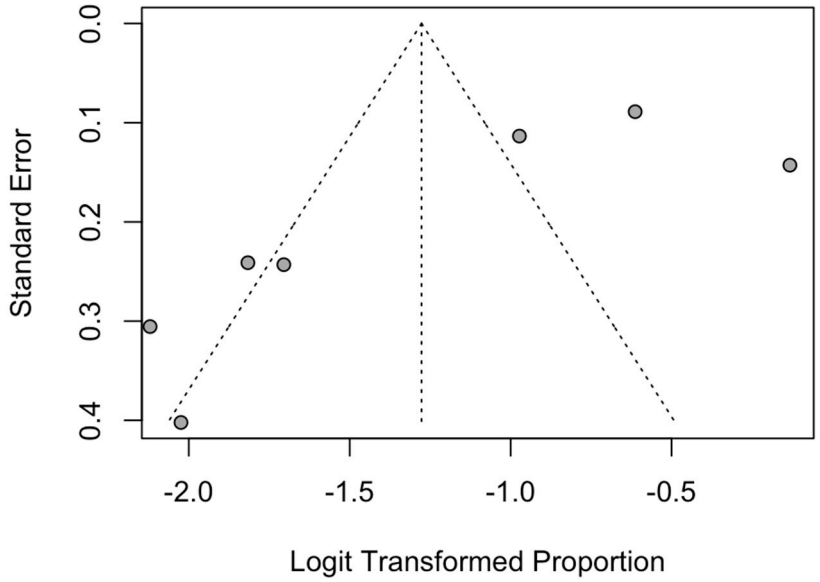
C Incidence of all-cause mortality in patients with PH group 4 with or without cancer




D Risk of all-cause mortality in patients with PH with vs. without cancer



E Prevalence of PH in patients with cancer




F Risk of all-cause mortality in patients with cancer and with vs. without PH

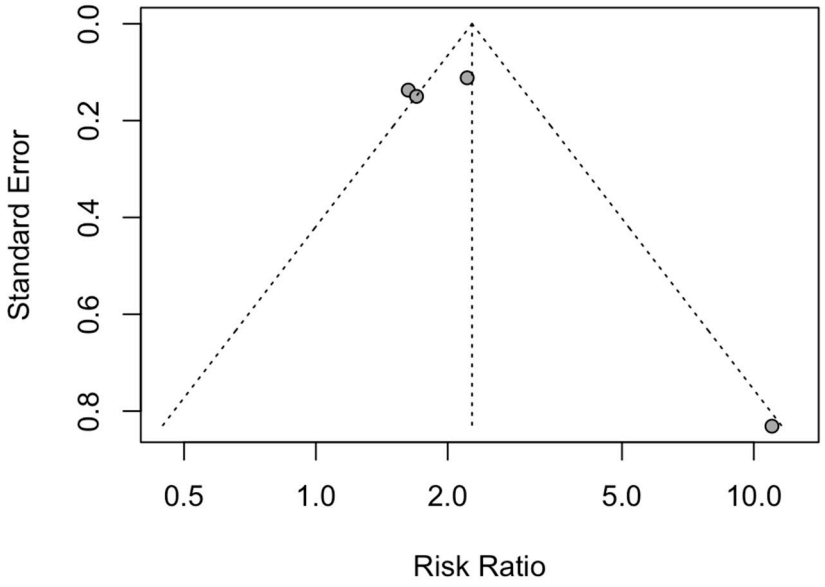


Fig. S2 Incidence of all-cause mortality in patients with PH group 4 with or without cancer

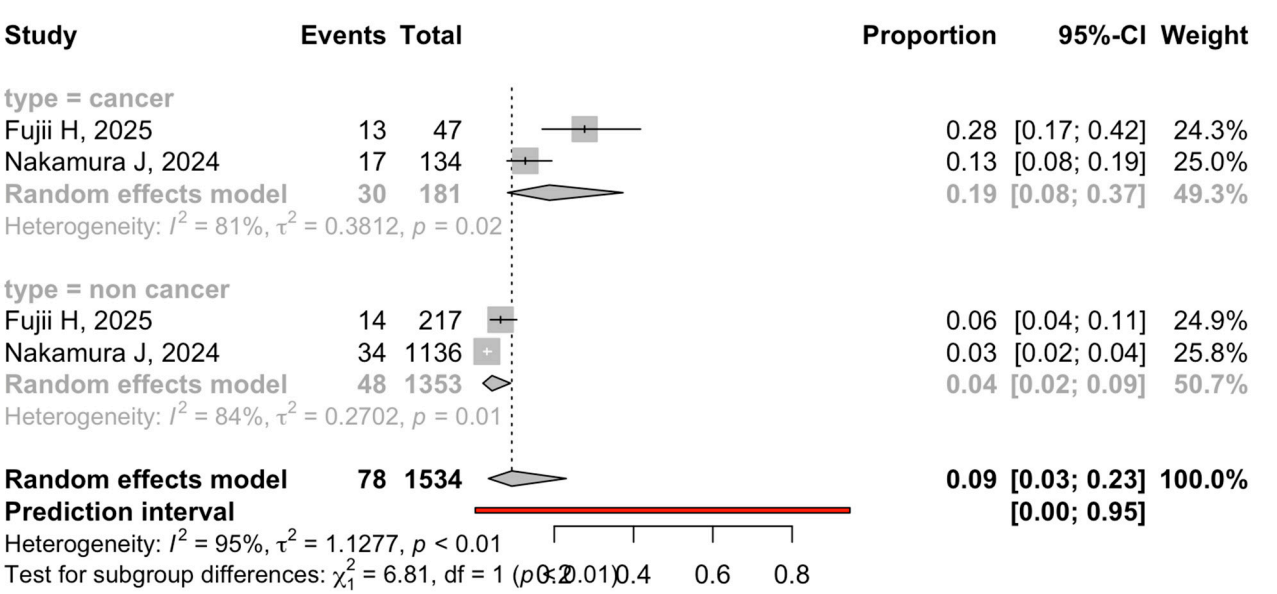



Fig. S3 Prevalence of PH in patients with cancer

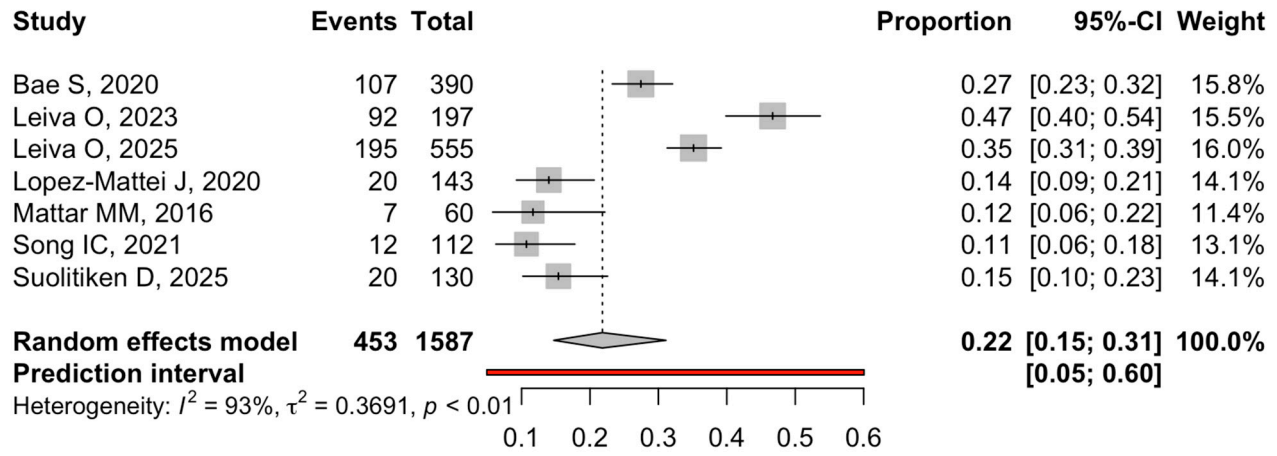



Fig. S4 Risk of all-cause mortality in patients with cancer and with vs. without PH

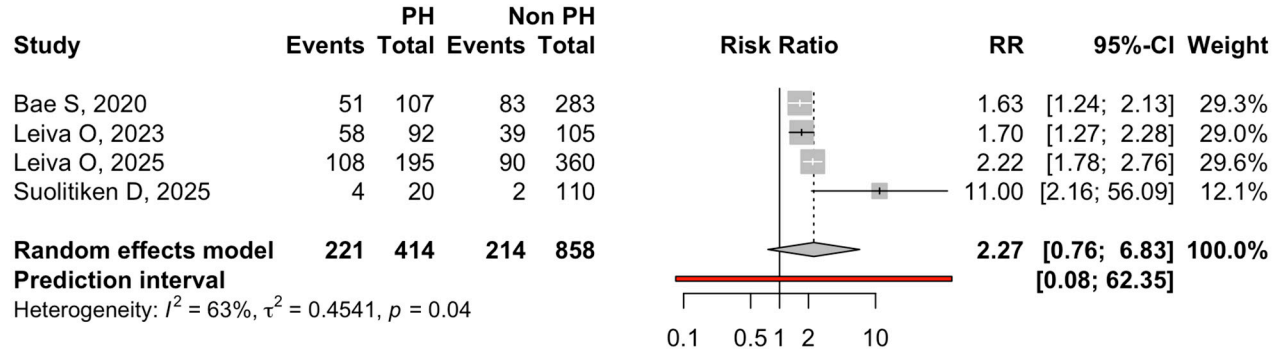


Table S1. Countries and years of inclusion

| Author, year | Years of inclusion | Country | Intervention | Collection of data | Multicentre |
|---|---|---|---|---|---|
| Bae S, 2020 [1] | 2007-2017 | Korea | No | Retrospective cohort study | No |
| Bonderman D, 2009 [2] | 1996-2007 | Austria | No | Retrospective cohort study | Yes |
| Bravos E, 2019 [3] | 2010-2012 | France | No | Prospective cohort study | Yes |
| Dodson MW, 2022 [4] | 2015-2019 | USA | No | Prospective cohort study | No |
| Fujii H, 2025 [5] | 2011-2022 | Japan | No | Retrospective cohort study | No |
| Leiva O, 2023 [6] | 2000-2020 | USA | No | Retrospective cohort study | No |
| Leiva O, 2025 [7] | 2010-2023 | USA | No | Retrospective cohort study | Yes |
| Lopez-Mattei J, 2020 [8] | 2015-2017 | USA | No | Retrospective cohort study | No |
| Mattar MM, 2016 [9] | 2013-2015 | Egypt | No | Prospective cohort study | No |
| Nakamura J, 2024 [10] | 2018-2023 | Japan | No | Prospective cohort study | No |
| Song IC, 2021 [11] | 2003-2020 | Korea | No | Retrospective cohort study | No |
| Suolitiken D, 2025 [12] | 2020-2024 | China | No | Retrospective cohort study | No |

Table S2. Definitions of outcomes and duration of follow-up

| Author, year | Efficacy outcome results | Follow-up, months (mean) | Author, year | Efficacy outcome results | Follow-up, months (mean) |
|---|---|---|---|---|---|
| Bae S, 2020 [1] | All-cause death:<br>PH: 51<br>Non-PH: 83 | 22.9 | Leiva O, 2025 [7] | All-cause death:<br>PH: 108<br>Non-PH: 90 | 96 |
| Bonderman D, 2009 [2] | - | - | Lopez-Mattei J, 2020 [8] | - | 36.6 |
| Bravos E, 2019 [3] | All-cause death:<br>PH: 35<br>Non-PH: 15 | 26.4 | Mattar MM, 2016 [9] | - | - |
| Dodson MW, 2022 [4] | - | - | Nakamura J, 2024 [10] | All-cause death:<br>PH: 51<br>VTE recurrence:<br>PH: 262 | - |
| Fujii H, 2025 [5] | All-cause death:<br>PH: 27 | 38 | Song IC, 2021 [11] | - | - |
| Leiva O, 2023 [6] | All-cause death:<br>PH: 58<br>Non-PH: 39 | 51.2 | Suolitiken D, 2025 [12] | All-cause death:<br>PH: 4<br>Non-PH: 2 | - |

PH: pulmonary hypertension; VTE: venous thromboembolism

Table S3. The risk of bias assessment of the included studies

| The Newcastle-Ottawa Scale for assessing the quality of nonrandomized studies in the meta-analysis | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Selection | | | | Comparability of the cohort | Outcome | | | Total score |
| Author, year | Representativeness of the exposed cohort | Selection of the non-exposed cohort | Ascertainment of exposure | Outcome not present at baseline | | Assessment of outcome | Enough follow up duration | Adequate follow-up | |
| Bae S, 2020 [1] | * | | * | * | * | | * | * | 6 |
| Bonderman D, 2009 [2] | * | * | * | * | * | * | * | * | 8 |
| Bravos E, 2019 [3] | * | * | * | * | | * | * | * | 7 |
| Dodson MW, 2022 [4] | * | * | * | * | | * | * | * | 7 |
| Fujii H, 2025 [5] | * | * | * | * | * | * | * | * | 8 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Leiva O, 2023 [6] | * | | * | * | * | | * | * | 6 |
| Leiva O, 2025 [7] | * | | * | * | * | | * | * | 6 |
| Lopez-Mattei J, 2020 [8] | * | | * | * | * | | * | * | 6 |
| Mattar MM, 2016 [9] | * | | * | * | * | | * | * | 6 |
| Nakamura J, 2024 [10] | * | * | * | * | * | * | * | * | 8 |
| Song IC, 2021 [11] | * | | * | * | * | | * | * | 6 |
| Suolitiken D, 2025 [12] | * | | * | * | * | | * | * | 6 |

**Literature search strategy**

1 exp Hypertension, Pulmonary/

2 exp Pulmonary Arterial Hypertension/

3 exp Pulmonary Vascular Diseases/

4 (pulmon* adj3 hypertens*).mp.

5 (pulmonary adj3 hypertens*).mp.

6 (pulmonary adj3 arterial adj3 hypertens*).mp.

7 (PAH or "pulmonary arterial hypertens*").mp.

8 (CTEPH or "chronic thromboembolic pulmonary hypertens*" or "chronic thromboembolic PH").mp.

9 (PVOD or "pulmonary veno-occlusiv*").mp.

10 (portopulmonary or "portopulmonary hypertens*").mp.

11 or/1-10

12 exp Neoplasms/

13 (neoplasm* or neoplas* or tumor* or tumour* or malignan* or cancer* or carcinoma*).mp.

14 exp Incidence/ or exp Epidemiology/ or exp Risk/

15 (inciden* or incidence rate* or "incidence rate" or prevalen* or "population-based" or "cohort" or "cohort stud*" or longitudinal* or "epidemiolog*").mp.

16 12 or 13

17 14 or 15

18 11 and 16 and 17

19 limit 18 to full text

20 limit 19 to human

21 limit 20 to humans

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