Supplementary Table 1 Endpoints of included studies

| Ref. | HN | GI | HE | Severe | PICD | Ascites | SBP | HRS | Renal | Hospital | Mortality | PE AE | In |
|--|----|----|----|------------|------|---------|-----|-----|------------|----------|-----------|-------|-----------|
| | | | | Infection# | | | | | impairment | stay | | | hospital |
| | | | | | | | | | | (days) | | | mortality |
| Ginès <i>et al</i> , 1988 ^[49] | a | a | a | a | | a | | | a | a | a | a | a |
| Sola-Vera <i>et al.</i> , 2003 ^[52] | a | a | | a | a | a | a | | a | a | | | a |
| Compean <i>et al.</i> , 2002 ^[48] | a | | | | | a | | a | a | a | a | | a |
| Planas <i>et al.</i> , 1990 ^[50] | a | a | a | a | | a | a | | a | a | a | a | a |
| Bajaj <i>et al.,</i> 2018 ^[53] | a | | | | | | a | | | | | | a |
| Singh et al., | a | | | | a | a | | | a | | | | |

| 2006 ^[54] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Moreau <i>et al.</i> , 2002 ^[55] | a | | | | | | a | | | |
| Salerno <i>et al.,</i> 1991 ^[56] | a | a | a | a | a | | a | a | | a |
| García- Compeán <i>et</i> <i>al.</i> , 1993 ^[57] | a | | a | | | | a | | a | a |
| Fassio <i>et al.,</i> 1992 ^[58] | a | | a | | a | a | a | | | a |
| Altman <i>et</i> al., 1998 ^[59] | a | a | a | a | | | a | | | |
| Singh et al., | | | | | | | a | | | |

| • | | | | | | | | | | | | | | |
|---|---|---|---|---|------------|---|---|---|-----------|---|---|---|---|---|
| 2006 ^[60] | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Appenrodt | | | | | a | | | a | a | | | | | a |
| | - | | | | U . | | | - | 0. | | | | | • |
| et al., | | | | | | | | | | | | | | |
| $2008^{[37]}$ | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Abdel- | a | a | a | a | a | a | | | a | a | a | | | a |
| Khalek and | | | | | | | | | | | | | | |
| Arif, | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| 2020 ^[13] | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Salerno et | a | a | a | | | | | | a | | | a | 1 | a |
| al., 1987 ^[61] | | | | | | | | | | | | | | |
| ш., 1907. | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Moreau et | a | a | a | a | | | a | | a | | | | | |
| al., 2006 ^[62] | | | | | | | | | | | | | | |
| <i>III.</i> , 2000 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Jalan et al., | | | a | a | | | | | | | | | | a |
| 2007 ^[63] | | | | | | | | | | | | | | |
| _00, | | | | | | | | | | | | | | |

| Bari et al., Bari et al., 2012 ^[65] Solà et al., 2018 ^[25] Caraceni et al., 2018 ^[24] Hu et al., 2023 ^[38] Khanna et a a a a a a a a a a a a a a a a a a | Sort <i>et al.</i> , 1999 ^[64] | | a | | | | | | a | | | a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Solà et al., 2018 ^[25] Caraceni et al., 2018 ^[24] Hu et al., 2023 ^[38] Khanna et a a a a a a a a a a a a a a a a a a | Bari et al., | | | a | | | a | | | | a | |
| al., 2018 ^[24] Hu et al., a a 2023 ^[38] Khanna et al, 2024 ^[66] a a a a Pascoli et al, a a a a a | Solà et al., | | | | | | | | | | a | |
| 2023 ^[38] Khanna et a a a a a a a a a a a a a a a a a a | | | | | | | | | | | a | |
| al, 2024 ^[66] Pascoli et al, a a a a | | | | | | | | | | a | | a |
| | | a | a | | a | a | a | a | | a | | |
| | | a | a | | a | a | a | | | a | | |
| Guevara <i>et al</i> , 2012 ^[68] a a a | | | | | | | a | a | | a | | |

| Thévenot | a | | | | a | | a | a |
|----------------------------|---|---|---|---|---|---|---|---|
| etal, 2014 ^[69] | | | | | | | | |
| Devisetty et | | | | | | a | a | a |
| al, 2023 ^[70] | | | | | | | | |
| Simón- | a | a | | | | a | a | |
| Talero et al., | | | | | | | | |
| 2013 ^[71] | | | | | | | | |
| Romanelli | a | a | a | a | | | | |
| et al., | a | u | u | u | | | | |
| 2006 ^[72] | | | | | | | | |
| Abootalebi | | | | | | | | |
| et al., | | | | | | | | |
| 2017 ^[73] | | | | | | | | |
| Boyer et al., | | | | | a | | a | a |
| $2016^{[74]}$ | | | | | | | | |
| | | | | | | | | |

AE: Adverse event; GI: Gastrointestinal bleeding; HE: Hepatic encephalopathy; HN: Hyponatremia; HRS: Hepatorenal syndrome; PICD: Post paracentesis circulatory dysfunction; PE: Peripheral edema; SBP: Spontaneous bacterial peritonitis#complication arising during hospitalization.

| Author(s) and Year | Albu Events | ımin Total | Cont Events | rol Total | | Weights Odds Ratio [95% CI] |
|--|--------------------------|---------------|----------------|--------------|-------------------|-----------------------------|
| | | | | | | |
| Volume expander | | | | | | |
| Abdel-Khalek and Arif, 2010 | 6 | 68 | 16 | 67 | ⊢ | 40.54% 0.31 [0.11, 0.85] |
| FE Model for Subgroup (Q = 0.00, df = 0, p = 1.00; $I^2 = 0.0^{\circ}$ | $\%$, $\tau^2 = 0.00$) | | | | | - 0.31 [0.11, 0.85] |
| Vasoconstrictor | | | | | | |
| Appenrodt et al, 2008 | 4 | 13 | 6 | 11 | ⊢ | 14.76% 0.37 [0.07, 1.97] |
| Singh et al, 2006 | 2 | 20 | 2 | 20 | l | 9.67% 1.00 [0.13, 7.89] |
| Bari et al, 2012 | 2 | 13 | 2 | 12 | — | 9.02% 0.91 [0.11, 7.72] |
| FE Model for Subgroup (Q = 0.69, df = 2, p = 0.71; $I^2 = 0.0^4$ | $\%$, $\tau^2 = 0.00$) | | | | | 0.63 [0.21, 1.91] |
| Inactives/Standard medical treatment | | | | | | |
| Sola-Vera et al, 2003 | 4 | 37 | 11 | 35 | - | → 26.01% 0.26 [0.08, 0.93] |
| FE Model for Subgroup (Q = 0.00, df = 0, p = 1.00; $I^2 = 0.0^4$ | $\%$, $\tau^2 = 0.00$) | | | | | 0.26 [0.08, 0.93] |
| FE Model for All Studies (Q = 1.96, df = 4, p = 0.74; I ² = 0.0 | 0%, τ² = 0.00) | | | | - | 100% 0.38 [0.20, 0.71] |
| Test for Subgroup Differences: $Q_M = 1.27$, df = 2, p = 0.53 | | | Favour | s Albumin | | Favours Control |
| | | | | | 0.05 0.25 | 1 4 |
| | | | | | Odds Ratio (log s | scale) |

Supplementary Figure 1 Forest plot comparing albumin with other treatment groups for post paracentesis circulatory dysfunction. 95% CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

| Author(s) and Year | Albur Events | min Total | Conf Events | trol Total | | Weights | Odds Ratio [95% CI] |
|---|-----------------------------------|--------------|----------------|---------------|---------------|-----------------|-----------------------|
| | | | | | | | |
| Volume expander | | | | | | | |
| Moreau et al, 2006 | 1 | 30 | 6 | 38 | | 9.5 | 5% 0.18 [0.02, 1.62] |
| Abdel-Khalek and Arif, 2010 | 3 | 68 | 5 | 67 | - | ■ 20.84 | 4% 0.57 [0.13, 2.50] |
| Altman et al, 1998 | 2 | 33 | 3 | 27 | ├ | 12.9 | 3% 0.52 [0.08, 3.34] |
| Salerno et al, 1991 | 2 | 27 | 0 | 27 | | → 4.76° | % 5.39 [0.25, 117.77] |
| Planas et al, 1990 | 1 | 43 | 2 | 45 | | ▶ 7.6 | 1% 0.51 [0.04, 5.86] |
| FE Model for Subgroup (Q = 3.09, df = 4, p = 0.54; 1 ² | $\tau = 0.0\%, \tau^2 = 0.00)$ | | | | | | 0.55 [0.22, 1.35] |
| Inactives/Standard medical treatment | | | | | | | |
| Jalan et al, 2007 | 3 | 12 | 7 | 12 | - | 14.99 | 5% 0.24 [0.04, 1.36] |
| Sola-Vera et al, 2003 | 1 | 37 | 2 | 35 | ← | ▶ 7.50 | 6% 0.46 [0.04, 5.29] |
| Ginès et al, 1988 | 4 | 52 | 4 | 53 | <u> </u> | 21.7 | 5% 1.02 [0.24, 4.32] |
| FE Model for Subgroup (Q = 1.62, df = 2, p = 0.45; 1 ² | $\tau = 4.1\%, \tau^2 = 0.04)$ | | | | | | 0.54 [0.19, 1.53] |
| FE Model for All Studies (Q = 4.71, df = 7, p = 0.70; | $\tau^2 = 0.0\%, \tau^2 = 0.00)$ | | | | | 100 | 0% 0.55 [0.28, 1.07] |
| Test for Subgroup Differences: $Q_M = 0.00$, df = 1, p = 0.99 | | | Favou | rs Albumin | | Favours Control | |
| | | | | | 0.05 0.25 | 1 4 | |
| | | | | | Odds Ratio (I | og scale) | |

Supplementary Figure 2 Forest plot comparing albumin with other treatment groups for severe infection. 95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

| Author(s) and Year | Albu Events | min Total | Con Events | itrol Total | | | | W | eights | Odds Ratio [| 95% CI] |
|---------------------------------------|----------------|-----------------|---------------------------|----------------|--------|---------------|-------|-------------|------------------|----------------|---------|
| Salerno et al_1987 | 0 | 20 | 2 | 21 | 4 | | _ | - | 2.40% | 0.19 [0.01, | 4.22] |
| Ginès et al_1988 | 2 | 52 | 1 | 53 | | F | _ | | 3.89% | 2.08 [0.18, 2 | 23.67] |
| Sola-Vera et al_2003 | 1 | 37 | 0 | 35 | | - | | - | 2.20% | 2.92 [0.11, 7 | 74.04] |
| Khanna et al_2014 | 13 | 88 | 15 | 86 | | - | - | → | 35.04% | 0.82 [0.36, | 1.85] |
| Pascoli et al_2018 | 1 | 45 | 1 | 25 | 4 | - | - | - | 2.90% | 0.55 [0.03, | 9.12] |
| Thévenot etal_2014 | 3 | 95 | 4 | 96 | | - | • | | 9.90% | 0.75 [0.16, | 3.44] |
| Simón-Talero et al2013 | 1 | 26 | 3 | 30 | - | = | - | | 4.25% | 0.36 [0.04, | 3.69] |
| Romanelli et al2006 | 5 | 54 | 10 | 46 | | - | - | | 17.21% | 0.37 [0.12, | 1.17] |
| Salerno et al_1991 | 3 | 27 | 0 | 27 | | E | + | - | 2.54% | 7.86 [0.39, 15 | 59.85] |
| Moreau et al_2006 | 4 | 30 | 3 | 38 | | - | - | | 9.21% | 1.79 [0.37, | 8.72] |
| Altman et al_1998 | 0 | 33 | 1 | 27 | - | | - | | 2.19% | 0.26 [0.01, | 6.74] |
| Planas et al_1990 | 1 | 43 | 3 | 45 | - | - | - | | 4.34% | 0.33 [0.03, | 3.34] |
| Abdel-Khalek and Arif_2010 | 1 | 68 | 2 | 67 | - | - | | - | 3.92% | 0.49 [0.04, | 5.48] |
| FE Model for All Studies (Q = 8.54, c | df = 12, p = 0 | 74; $I^2 = 0$. | 0%, τ ² = 0.00 |) Favours A | lbumin | | - | Favour | 100% s Contro | 0.73 [0.45, | 1.18] |
| | | | | | Į. | | | 8. | | | |
| | | | | | 0.05 | 0.25 | 1 | 4 | | | |
| | | | | | (| Odds Ratio (I | og sc | ale) | | | |

| Author(s) and Year | Albu Events | min Total | Cont Events | rol Total | | | Weights | Odds Ratio [95% CI] |
|--|-----------------|--------------|----------------|--------------|----------|------------------------|----------------|---------------------------|
| | | | | | | | | |
| Volume expander | | | | | | | | |
| Abdel-Khalek and Arif, 2010 | 1 | 68 | 2 | 67 | • | | - | 3.92% 0.49 [0.04, 5.48] |
| Planas et al, 1990 | 1 | 43 | 3 | 45 | ← | - | ——— | 4.34% 0.33 [0.03, 3.34] |
| Altman et al, 1998 | 0 | 33 | 1 | 27 | • | | | 2.19% 0.26 [0.01, 6.74] |
| Moreau et al, 2006 | 4 | 30 | 3 | 38 | | - | | 9.21% 1.79 [0.37, 8.72] |
| Salerno et al, 1991 | 3 | 27 | 0 | 27 | | - | 2 | 2.54% 7.86 [0.39, 159.85] |
| FE Model for Subgroup (Q = 4.19, df = 4, p = 0.38; $l^2 = 0.0\%$ | $\tau^2 = 0.00$ | | | | | | | 1.00 [0.36, 2.78] |
| Inactives/Standard medical treatment | | | | | | | | |
| Romanelli et al., 2006 | 5 | 54 | 10 | 46 | | - | 1 | 17.21% 0.37 [0.12, 1.17] |
| Simón-Talero et al., 2013 | 1 | 26 | 3 | 30 | • | | | 4.25% 0.36 [0.04, 3.69] |
| Thévenot etal, 2014 | 3 | 95 | 4 | 96 | | ⊢ ■ | | 9.90% 0.75 [0.16, 3.44] |
| Pascoli et al, 2018 | 1 | 45 | 1 | 25 | ◀ | - | | 2.90% 0.55 [0.03, 9.12] |
| Khanna et al, 2014 | 13 | 88 | 15 | 86 | | ⊢ | ⊣ 3 | 35.04% 0.82 [0.36, 1.85] |
| Sola-Vera et al, 2003 | 1 | 37 | 0 | 35 | | — | - | 2.20% 2.92 [0.11, 74.04] |
| Ginès et al, 1988 | 2 | 52 | 1 | 53 | | <u> </u> | | 3.89% 2.08 [0.18, 23.67] |
| Salerno et al, 1987 | 0 | 20 | 2 | 21 | • | | - | 2.40% 0.19 [0.01, 4.22] |
| FE Model for Subgroup (Q = 3.85, df = 7, p = 0.80; l^2 = 0.0% | $\tau^2 = 0.00$ | | | | | - | | 0.66 [0.39, 1.14] |
| FE Model for All Studies (Q = 8.54, df = 12, p = 0.74; I^2 = 0.0 Test for Subgroup Differences: Q_M = 0.49, df = 1, p = 0.48 | 0%, τ² = 0.00) | | Favour | s Albumin | | ı | avours Control | 100% 0.73 [0.45, 1.18] |
| | | | | | 0.05 | 0.25 1 | 4 | |
| | | | | | | Odds Ratio (log scale) | | |

Supplementary Figure 3 Forest plot for gastrointestinal bleeding comparing albumin and control and albumin *vs* **control across other treatment groups.** A: Forest plot for gastrointestinal (GI) bleeding comparing albumin and control; B: Forest plot for GI bleeding comparing albumin *vs* control across other treatment groups.95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

| Author(s) and Year | Albu Events | min Total | Cor Events | ntrol Total | | | Weights | Odds Ratio [95% CI] |
|------------------------------------|--------------------|--------------------------|----------------------------|------------------|----------|------------------|-------------------|----------------------|
| Ginès et al_1988 | 6 | 52 | 3 | 53 | | <u> </u> | - ► 6.17 | 7% 2.17 [0.51, 9.20] |
| Jalan et al_2007 | 1 | 12 | 5 | 12 | - | • | → 2.33 | 3% 0.13 [0.01, 1.33] |
| García-Compeán et al_1993 | 1 | 17 | 0 | 18 | | | → 1.20 | % 3.36 [0.13, 88.39] |
| Salerno et al_1987 | 2 | 20 | 1 | 21 | | — | 2.08 | % 2.22 [0.19, 26.63] |
| Salerno et al_1987 | 2 | 20 | 3 | 21 | - | - | → 3.54 | 1% 0.67 [0.10, 4.48] |
| Khanna et al_2014 | 14 | 88 | 32 | 86 | | | 24.82 | 2% 0.32 [0.16, 0.66] |
| Pascoli et al_2018 | 12 | 45 | 16 | 25 | <u> </u> | | 11.64 | 1% 0.20 [0.07, 0.58] |
| Simón-Talero et al2013 | 5 | 26 | 6 | 30 | | ı—— | −−− − 7.33 | 3% 0.95 [0.25, 3.58] |
| Romanelli et al2006 | 11 | 54 | 11 | 46 | | , <u> </u> | ─ → 14.31 | 1% 0.81 [0.32, 2.10] |
| Altman et al_1998 | 1 | 33 | 0 | 27 | - | | 1.22 | % 2.54 [0.10, 64.86] |
| Planas et al_1990 | 3 | 43 | 3 | 45 | | <u> </u> | → 4.67 | 7% 1.05 [0.20, 5.51] |
| Fassio et al_1992 | 1 | 21 | 2 | 20 | - | - | → 2.08 | 3% 0.45 [0.04, 5.39] |
| Salerno et al_1991 | 2 | 27 | 2 | 27 | | | → 3.10 | 0% 1.00 [0.13, 7.67] |
| Abdel-Khalek and Arif_2010 | 4 | 68 | 3 | 67 | | - | 5.44 | 1.33 [0.29, 6.20] |
| Moreau et al_2006 | 7 | 30 | 9 | 38 | | i | └ 10.07 | 7% 0.98 [0.32, 3.03] |
| FE Model for All Studies (Q = 17.9 | 95, df = 14, p = 0 | 0.21; I ² = ; | 22.0%, τ ² = 0. | 00) Favours A | Albumin | • | Favours Cont | 0% 0.62 [0.44, 0.89] |
| | | | | | 0.05 | 0.25 1 | 4 | |
| | | | | | Od | dds Ratio (log s | scale) | |

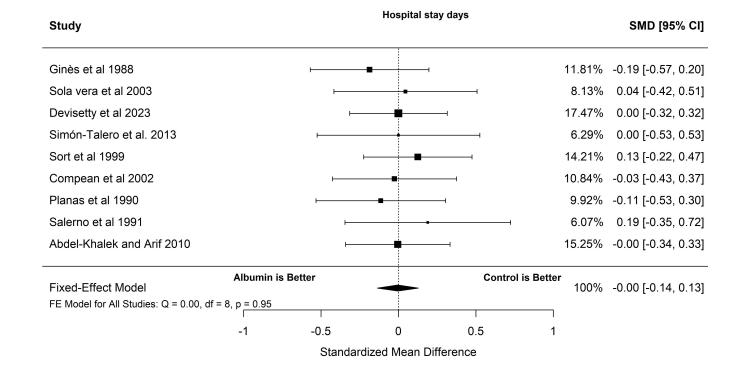
| Author(s) and Year | Albur Events | nin Total | Cont Events | rol Total | | Weights | Odds Ratio [95% CI] |
|--|--|--------------|----------------|--------------|--------------------|-----------------|--------------------------|
| | | | | | | | |
| Volume expander | | | | | | | |
| Moreau et al, 2006 | 7 | 30 | 9 | 38 | —— | • | 10.07% 0.98 [0.32, 3.03] |
| Abdel-Khalek and Arif, 2010 | 4 | 68 | 3 | 67 | H | | 5.44% 1.33 [0.29, 6.20] |
| Salerno et al, 1991 | 2 | 27 | 2 | 27 | <u> </u> | | 3.10% 1.00 [0.13, 7.67] |
| Fassio et al, 1992 | 1 | 21 | 2 | 20 | - | - | 2.08% 0.45 [0.04, 5.39] |
| Planas et al, 1990 | 3 | 43 | 3 | 45 | ——— | | 4.67% 1.05 [0.20, 5.51] |
| Altman et al, 1998 | 1 | 33 | 0 | 27 | - | | 1.22% 2.54 [0.10, 64.86] |
| FE Model for Subgroup (Q = 0.84, df = 5, p = 0.9 | 7; $I^2 = 0.0\%$, $\tau^2 = 0.00$) | | | | - | _ | 1.04 [0.52, 2.09] |
| Inactives/Standard medical treatment | | | | | | | |
| Romanelli et al., 2006 | 11 | 54 | 11 | 46 | ⊢ | | 14.31% 0.81 [0.32, 2.10] |
| Simón-Talero et al., 2013 | 5 | 26 | 6 | 30 | | - | 7.33% 0.95 [0.25, 3.58] |
| Pascoli et al, 2018 | 12 | 45 | 16 | 25 | — | | 11.64% 0.20 [0.07, 0.58] |
| Khanna et al, 2014 | 14 | 88 | 32 | 86 | | | 24.82% 0.32 [0.16, 0.66] |
| Salerno et al, 1987.2 | 2 | 20 | 3 | 21 | - | - | 3.54% 0.67 [0.10, 4.48] |
| Salerno et al, 1987.1 | 2 | 20 | 1 | 21 | H | | 2.08% 2.22 [0.19, 26.63] |
| García-Compeán et al, 1993 | 1 | 17 | 0 | 18 | F | - | 1.20% 3.36 [0.13, 88.39] |
| Jalan et al, 2007 | 1 | 12 | 5 | 12 | | | 2.33% 0.13 [0.01, 1.33] |
| Ginès et al, 1988 | 6 | 52 | 3 | 53 | <u> </u> | | 6.17% 2.17 [0.51, 9.20] |
| FE Model for Subgroup (Q = 14.25, df = 8, p = 0.4 | 08; $I^2 = 45.1\%$, $\tau^2 = 0.37$) | | | | • | | 0.60 [0.32, 1.13] |
| FE Model for All Studies (Q = 17.95, df = 14, p = | 0.21; $I^2 = 22.0\%$, $\tau^2 = 0.00$) | | | | • | | 100% 0.62 [0.44, 0.89] |
| Test for Subgroup Differences: Q _M = 2.86, df = 1, p = 0.09 | | | Favour | s Albumin | | Favours Control | |
| | | | | | 0.05 0.25 | 1 4 | |
| | | | | | Odds Ratio (log so | ale) | |

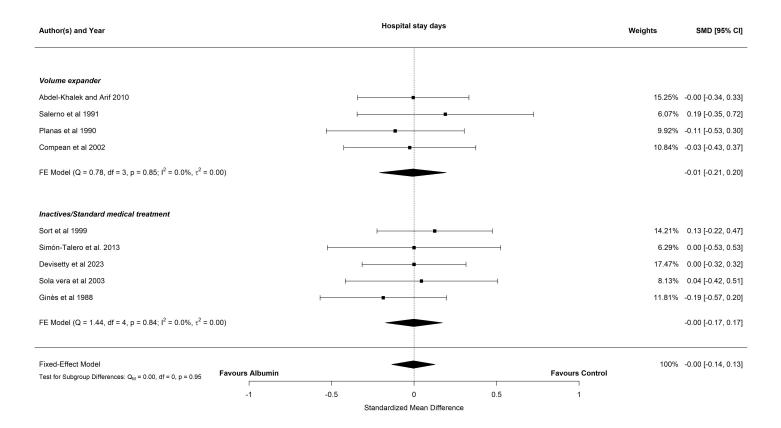
Supplementary Figure 4 Forest plot for hepatic encephalopathy comparing albumin and control and albumin *vs* **control across other treatment groups.** A: Forest plot for hepatic encephalopathy (HE) comparing albumin and control; B: Forest plot for HE comparing albumin *vs* control across other treatment groups.95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

| Author(s) and Year | Albu Events | min Total | Con Events | trol Total | Weights Odds Ratio [95% CI] |
|------------------------------------|--------------------|-----------------|-------------------------|----------------------|---|
| Ginès et al_1988 | 0 | 52 | 6 | 53 | 2.16% 0.07 [0.00, 1.27] |
| Sola-Vera et al_2003 | 2 | 37 | 3 | 35 | - 5.31% 0.61 [0.10, 3.89] |
| García-Compeán et al_1993 | 1 | 17 | 2 | 18 | 2.92% 0.50 [0.04, 6.08] |
| Salerno et al_1987 | 1 | 20 | 1 | 21 | → 2.26% 1.05 [0.06, 18.05] |
| Khanna et al_2014 | 6 | 88 | 22 | 86 | ■ 19.78% 0.21 [0.08, 0.56] |
| Guevara et L_2012 | 3 | 46 | 4 | 51 | 7.56% 0.82 [0.17, 3.87] |
| Thévenot etal_2014 | 13 | 95 | 12 | 96 | ⊢ 2 5.74% 1.11 [0.48, 2.57] |
| Singh et al_2006 [#] | 1 | 20 | 1 | 20 | → 2.25% 1.00 [0.06, 17.18] |
| Moreau et al_2002 | 0 | 10 | 0 | 10 | → 1.13% 1.00 [0.02, 55.27] |
| Singh et al_2006* | 0 | 20 | 0 | 20 | → 1.16% 1.00 [0.02, 52.85] |
| Appenrodt et al_2008 | 0 | 13 | 2 | 11 | 1.84% 0.14 [0.01, 3.28] |
| Compean et al_2002 | 7 | 48 | 2 | 48 | → 6.89% 3.93 [0.77, 19.98] |
| Planas et al_1990 | 1 | 43 | 1 | 45 | → 2.32% 1.05 [0.06, 17.29] |
| Salerno et al_1991 | 1 | 27 | 1 | 27 | → 2.29% 1.00 [0.06, 16.85] |
| Fassio et al_1992 | 1 | 21 | 1 | 20 | → 2.26% 0.95 [0.06, 16.29] |
| Altman et al_1998 | 0 | 33 | 0 | 27 | → 1.17% 0.82 [0.02, 42.73] |
| Abdel-Khalek and Arif_2010 | 1 | 68 | 1 | 67 | → 2.34% 0.99 [0.06, 16.08] |
| Moreau et al_2006 | 4 | 30 | 8 | 38 | 10.62% 0.58 [0.16, 2.14] |
| FE Model for All Studies (Q = 15.4 | 43, df = 17, p = 0 | $0.56; I^2 = 0$ | $0.0\%, \tau^2 = 0.00$ |) avours <i>A</i> | Albumin Favours Control 0.67 [0.44, 1.03] |
| | | | | | 0.05 0.25 1 4 |
| | | | | | Odds Ratio (log scale) |

| Author(s) and Year | Albui Events | min Total | Events Con | trol Total | | Weights Od | ds Ratio [95% CI] |
|---|--|--------------|------------|---------------|---------------|---|--------------------|
| Volume expander | | | | | | | |
| Moreau et al. 2006 | 4 | 30 | 8 | 38 | <u> </u> | 10.62% | 0.58 [0.16, 2.14] |
| Abdel-Khalek and Arif, 2010 | 1 | 68 | 1 | 67 | | | 0.99 [0.06, 16.08] |
| Altman et al, 1998 | 0 | 33 | 0 | 27 | | i i i i i i i i i i i i i i i i i i i | 0.82 [0.02, 42.73] |
| Fassio et al. 1992 | 1 | 21 | 1 | 20 | | | 0.95 [0.06, 16.29] |
| Salerno et al. 1991 | 1 | 27 | 1 | 27 | | AT COMPANY OF THE PROPERTY OF | 1.00 [0.06, 16.85] |
| Planas et al, 1990 | 1 | 43 | 1 | 45 | | | 1.05 [0.06, 17.29] |
| Compean et al, 2002 | 7 | 48 | 2 | 48 | | | 3.93 [0.77, 19.98] |
| FE Model for Subgroup (Q = 3.32, df = 6, p = 0.77 | τ ; $I^2 = 0.0\%$, $\tau^2 = 0.00$) | | | | - | | 1.13 [0.50, 2.53] |
| Vasoconstrictor | | | | | | | |
| Appenrodt et al, 2008 | 0 | 13 | 2 | 11 | - | 1.84% | 0.14 [0.01, 3.28] |
| Singh et al, 2006 * | 0 | 20 | 0 | 20 | - | → 1.16% | 1.00 [0.02, 52.85] |
| Moreau et al, 2002 | 0 | 10 | 0 | 10 | - | → 1.13% | 1.00 [0.02, 55.27] |
| Singh et al, 2006# | 1 | 20 | 1 | 20 | F | 2.25% | 1.00 [0.06, 17.18] |
| FE Model for Subgroup (Q = 1.06, df = 3, p = 0.79 | t ; $t^2 = 0.0\%$, $\tau^2 = 0.00$) | | | | | | 0.57 [0.10, 3.08] |
| Inactives/Standard medical treatment | | | | | | | |
| Thévenot etal, 2014 | 13 | 95 | 12 | 96 | ⊢ | ■ 25.74% | 1.11 [0.48, 2.57] |
| Guevara et L, 2012 | 3 | 46 | 4 | 51 | - | 7.56% | 0.82 [0.17, 3.87] |
| Khanna et al, 2014 | 6 | 88 | 22 | 86 | ⊢ ■ | 19.78% | 0.21 [0.08, 0.56] |
| Salerno et al, 1987 | 1 | 20 | 1 | 21 | F | 2.26% | 1.05 [0.06, 18.05] |
| García-Compeán et al, 1993 | 1 | 17 | 2 | 18 | - | ▶ 2.92% | 0.50 [0.04, 6.08] |
| Sola-Vera et al, 2003 | 2 | 37 | 3 | 35 | F | ■ 5.31% | 0.61 [0.10, 3.89] |
| Ginès et al, 1988 | 0 | 52 | 6 | 53 | - | 2.16% | 0.07 [0.00, 1.27] |
| FE Model for Subgroup (Q = 8.85, df = 6, p = 0.18 | t ; $t^2 = 32.2\%$, $\tau^2 = 0.00$) | | | | • | - | 0.55 [0.32, 0.93] |
| FE Model for All Studies (Q = 15.43, df = 17, p = 0 Test for Subgroup Differences: Q_M = 2.19, df = 2, p = 0.33 | 0.56; $I^2 = 0.0\%$, $\tau^2 = 0.00$) | | Favou | rs Albumin | - | Favours Control | 0.67 [0.44, 1.03] |
| | | | | | 0.05 0.25 | 1 4 | |
| | | | | | Odds Ratio (I | og scale) | |
| | | | | | Odd3 Natio (i | og oddio, | |

Supplementary Figure 5 Forest plot for renal impairment comparing albumin and control and albumin vs control across other treatment groups. A: Forest plot for renal impairment comparing albumin and control; B: Forest plot for renal impairment comparing albumin vs control across other treatment groups. 95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect. #Singh V et al., J Gastroenterol Hepatol. 2006; *Singh V et al., J Intern Med. 2006.





Supplementary Figure 6 Forest plot for hospital stay days comparing albumin and control and albumin vs control across other treatment groups. A: Forest plot for hospital stay days comparing albumin and control; B: Forest plot for hospital stay days comparing albumin vs control across other treatment groups.95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect; SMD, standardized mean difference.

| Author(s) and Year | Albu Events | min Total | Cor Events | itrol Total | | | Weights | Odds Ratio [95% CI] |
|------------------------------------|------------------|--------------------------|---------------|----------------|----------|------------------|-------------------|------------------------------|
| Ginès et al_1988 | 10 | 52 | 11 | 53 | | <u> </u> | — 8.4 | 9% 0.91 [0.35, 2.37] |
| Sola-Vera et al_2003 | 10 | 37 | 11 | 35 | | ⊢ | 7.5 | 1% 0.81 [0.29, 2.24] |
| Khanna et al_2014 | 30 | 88 | 51 | 86 | | ⊢■─ | 20.5 | 0% 0.35 [0.19, 0.66] |
| Pascoli et al_2018 | 17 | 45 | 18 | 25 | — | | 6.9 | 1% 0.24 [0.08, 0.68] |
| Romanelli et al2006 | 21 | 54 | 39 | 46 | ← | - | 8.2 | 2% 0.11 [0.04, 0.30] |
| Singh et al_2006 | 2 | 20 | 1 | 20 | | | 1.20 | 5% 2.11 [0.18, 25.35] |
| Compean et al_2002 | 30 | 48 | 34 | 48 | | ⊢ | ─ → 10.6 | 7% 0.69 [0.29, 1.61] |
| Planas et al_1990 | 18 | 43 | 15 | 45 | | - | ■ 10.3 | 5% 1.44 [0.61, 3.43] |
| Salerno et al_1991 | 13 | 27 | 10 | 27 | | - | 6.5 | 9% 1.58 [0.53, 4.68] |
| Fassio et al_1992 | 6 | 21 | 5 | 20 | | - | - - 4.0 | 5% 1.20 [0.30, 4.80] |
| Abdel-Khalek and Arif_2010 | 21 | 68 | 27 | 67 | | ⊢ ■ | → 15.4 | 6% 0.66 [0.33, 1.35] |
| FE Model for All Studies (Q = 27.0 | 03, df = 10, p < | .01; I ² = 63 | | 0) Favours | Albumin | • | 10 Favours Con | 0% 0.59 [0.44, 0.78] trol |
| | | | | | 0.05 | 0.25 1 | 4 | |
| | | | | | 0 | dds Ratio (log s | scale) | |

| Author(s) and Year | Albui Events | nin Total | Cont Events | rol Total | | | | Weights | Ode | ds Ratio [95% CI] |
|--|---|--------------|----------------|--------------|----------|----------------|----------|-------------|--------|--------------------|
| Volume expander | | | | | | | | | | |
| Abdel-Khalek and Arif, 2010 | 21 | 68 | 27 | 67 | | - | | | 15.46% | 0.66 [0.33, 1.35] |
| Fassio et al, 1992 | 6 | 21 | 5 | 20 | | — | | - | 4.05% | 1.20 [0.30, 4.80] |
| Salerno et al, 1991 | 13 | 27 | 10 | 27 | | ⊢ | - | - | 6.59% | 1.58 [0.53, 4.68] |
| Planas et al, 1990 | 18 | 43 | 15 | 45 | | I | - | — | 10.35% | 1.44 [0.61, 3.43] |
| Compean et al, 2002 | 30 | 48 | 34 | 48 | | <u> </u> | - | | 10.67% | 0.69 [0.29, 1.61] |
| FE Model for Subgroup (Q = 3.39, df = 4, p = 0.50 | t ; $t^2 = 0.0\%$, $\tau^2 = 0.00$) | | | | | | • | | | 0.94 [0.63, 1.41] |
| Vasoconstrictor | | | | | | | | | | |
| Singh et al, 2006 | 2 | 20 | 1 | 20 | | — | | - | 1.26% | 2.11 [0.18, 25.35] |
| Romanelli et al., 2006 | 21 | 54 | 39 | 46 | • | | | | 8.22% | 0.11 [0.04, 0.30] |
| FE Model for Subgroup (Q = 4.59, df = 1, p = 0.03 | $s; I^2 = 78.2\%, \tau^2 = 3.33)$ | | | | | | | | | 0.39 [0.02, 6.53] |
| Inactives/Standard medical treatment | | | | | | | | | | |
| Pascoli et al, 2018 | 17 | 45 | 18 | 25 | <u> </u> | | -1 | | 6.91% | 0.24 [0.08, 0.68] |
| Khanna et al, 2014 | 30 | 88 | 51 | 86 | | — | 4 | | 20.50% | 0.35 [0.19, 0.66] |
| Sola-Vera et al, 2003 | 10 | 37 | 11 | 35 | | —— | - | 4 | 7.51% | 0.81 [0.29, 2.24] |
| Ginès et al, 1988 | 10 | 52 | 11 | 53 | | <u> </u> | - | - | 8.49% | 0.91 [0.35, 2.37] |
| FE Model for Subgroup (Q = 5.32 , df = 3 , p = 0.15 | $i; I^2 = 42.7\%, \tau^2 = 0.15)$ | | | | | • | - | | | 0.48 [0.27, 0.87] |
| FE Model for All Studies (Q = 27.03, df = 10, p < . Test for Subgroup Differences: $Q_M = 13.74$, df = 2, p = 0.00 | 01; $I^2 = 63.0\%$, $\tau^2 = 0.00$) | | Favour | s Albumin | | 4 | Favo | urs Control | 100% | 0.59 [0.44, 0.78] |
| 2 -F | | | | | 0.05 | 2.05 | | | | |
| | | | | | 0.05 | 0.25 | 1 | 4 | | |
| | | | | | | Odds Ratio (lo | g scale) | | | |

Supplementary Figure 7 Forest plot for ascites reappearance comparing albumin and control and comparing albumin vs control across other treatment groups. A: Forest plot for ascites reappearance comparing albumin and control; B: Forest plot for ascites reappearance comparing albumin vs control across other treatment groups.95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

HRS

| Author(s) and Year | Albu Events | min Total | Cor Events | ntrol Total | | | Weights | Odds Ratio[95% CI] |
|-----------------------------------|--------------------|----------------|---------------|------------------|----------|----------------|------------------------|---------------------|
| | | | | | | | | |
| Khanna et al_2014 | 6 | 88 | 21 | 86 | — | | 28.58% | 6 0.23 [0.09, 0.59] |
| Guevara et L_2012 | 1 | 46 | 4 | 51 | • | - | 5.34% | 6 0.26 [0.03, 2.43] |
| Pascoli et al_2018 | 10 | 45 | 14 | 25 | — | | 23.76% | 6 0.22 [0.08, 0.65] |
| Appenrodt et al_2008 | 0 | 13 | 1 | 11 | • | - | ▶ 2.44% | 6 0.26 [0.01, 7.03] |
| Bari et al_2012 | 0 | 13 | 0 | 12 | - | | - 1.66% | 0.93 [0.02, 50.29] |
| Boyer et al_2016 | 8 | 97 | 12 | 99 | | ⊢ | 29.91% | 6 0.65 [0.25, 1.67] |
| Compean et al_2002 | 1 | 48 | 3 | 48 | - | | 5.02% | 6 0.32 [0.03, 3.18] |
| Fassio et al_1992 | 1 | 21 | 1 | 20 | - | | → 3.29% | 0.95 [0.06, 16.29] |
| FE Model for All Studies (Q = 3.9 | 3, df = 7, p = 0.7 | 9; $I^2 = 0.0$ | | Favours <i>i</i> | Albumin | • | 100% Favours Contro | |
| | | | | | | T | | |
| | | | | | 0.05 | 0.25 | 1 4 | |
| | | | | | C | dds Ratio (log | g scale) | |

| Events | min Total | Con Events | rol Total | | | Weights | Odds Ratio [95% CI] |
|---------------------------|--|---|---|--|--------------------------------------|--|---|
| | | | | | | | |
| | | | | | | | |
| 1 | 21 | 1 | 20 | - | | ▶ 3 | 3.29% 0.95 [0.06, 16.29] |
| 1 | 48 | 3 | 48 | • | - | | 5.02% 0.32 [0.03, 3.18] |
| $\%$, $\tau^2 = 0.00$) | | | | | | | 0.49 [0.08, 2.94] |
| | | | | | | | |
| 8 | 97 | 12 | 99 | | - | 2 | 9.91% 0.65 [0.25, 1.67] |
| 0 | 13 | 0 | 12 | • | - | ▶ 1 | .66% 0.93 [0.02, 50.29] |
| 0 | 13 | 1 | 11 | • | - | - | 2.44% 0.26 [0.01, 7.03] |
| $\%$, $\tau^2 = 0.00$) | | | | | - | | 0.62 [0.26, 1.50] |
| | | | | | | | |
| 10 | 45 | 14 | 25 | ⊢ | - | 2 | 3.76% 0.22 [0.08, 0.65] |
| 1 | 46 | 4 | 51 | - | | <u> </u> | 5.34% 0.26 [0.03, 2.43] |
| 6 | 88 | 21 | 86 | ⊢ | | 2 | 8.58% 0.23 [0.09, 0.59] |
| $\%$, $\tau^2 = 0.00$) | | | | | - | | 0.23 [0.12, 0.45] |
| %, τ ² = 0.00) | | Favou | s Albumin | | • | Favours Control | 100% 0.34 [0.20, 0.57] |
| | | | | 0.05 | 0.25 | 1 4 | |
| | | | | 0.50 | | | |
| | Events 1 1 1 6, $\tau^2 = 0.00$) 8 0 0 0 1 1 1 6 6 6, $\tau^2 = 0.00$) | Events Total 1 21 1 48 6, $\tau^2 = 0.00$) 8 97 0 13 0 13 6, $\tau^2 = 0.00$) 10 45 1 46 6 88 6, $\tau^2 = 0.00$) | Events Total Events 1 21 1 1 48 3 6, $\tau^2 = 0.00$) 8 97 12 0 13 0 0 13 1 6, $\tau^2 = 0.00$) 10 45 14 1 46 4 6 88 21 6, $\tau^2 = 0.00$) | Events Total Events Total 1 21 1 20 1 48 3 48 6, $\tau^2 = 0.000$ 8 97 12 99 0 13 0 12 0 13 1 11 6, $\tau^2 = 0.000$ | Events Total Events Total 1 21 1 20 | Events Total Events Total 1 21 1 20 1 48 3 48 48 6, $\tau^2 = 0.00$) 8 97 12 99 10 13 0 12 10 10 10 10 10 10 10 10 10 10 10 10 10 | Events Total Events Total Weights 1 21 1 20 1 3 48 3 48 48 4 |

Supplementary Figure 8 Forest plot for hepatorenal syndrome comparing albumin and control and albumin vs control across other treatment groups. A: Forest plot for hepatorenal syndrome (HRS) comparing albumin and control; B: Forest plot for HRS comparing albumin vs control across other treatment groups.95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

SBP

| Author(s) and Year | Albu | min | Con | itrol | | Weights Odds Ratio[95% CI] | | |
|--|--------------|---------------------------|--------------------|---------|--------------------|-----------------------------------|--|--|
| ramor(o) and roal | Events | Total | Events | Total | | | | |
| | | | | | | | | |
| Sola-Vera et al_2003 | 1 | 37 | 1 | 35 | <u> </u> | → 6.14% 0.94 [0.06, 15.71] | | |
| Khanna et al_2014 | 3 | 88 | 15 | 86 | ■ | 29.68% 0.17 [0.05, 0.60] | | |
| Pascoli et al_2018 | 4 | 45 | 13 | 25 | ◄■ ── | 29.08% 0.09 [0.02, 0.33] | | |
| Romanelli et al2006 | 3 | 54 | 2 | 46 | 1 | ■ 14.43% 1.29 [0.21, 8.10] | | |
| Planas et al_1990 | 0 | 43 | 2 | 45 | ◀ | 5.17% 0.20 [0.01, 4.29] | | |
| Moreau et al_2006 | 2 | 30 | 4 | 38 | · <u>-</u> | 15.50% 0.61 [0.10, 3.56] | | |
| FE Model for All Studies (Q = 7.71, df | = 5, p = 0.1 | 17; I ² = 35.1 | %, $\tau^2 = 0.00$ |) | _ | 100% 0.26 [0.13, 0.52] | | |
| | | | I | Favours | Albumin | Favours Control | | |
| | | | | | 1 1 | | | |
| | | | | | 0.05 0.25 1 | 4 | | |
| | | | | | Odds Ratio (log se | cale) | | |

| Author(s) and Year | Albu Events | ımin Total | Cont Events | rol Total | | Weights Odds Ratio [9 | 95% CI] |
|--|--------------------------|---------------|----------------|--------------|------------------|-----------------------|----------|
| | | | | | | | |
| Volume expander | | | | | | | |
| Moreau et al, 2006 | 2 | 30 | 4 | 38 | ├ | 15.50% 0.61 [0.10 | , 3.56] |
| Planas et al, 1990 | 0 | 43 | 2 | 45 | ← · · · · | 5.17% 0.20 [0.01 | , 4.29] |
| FE Model for Subgroup (Q = 0.38, df = 1, p = 0.54; I^2 = 0.0%, | $\tau^2 = 0.00$) | | | | | 0.46 [0.10 |), 2.13] |
| Inactives/Standard medical treatment | | | | | | | |
| Romanelli et al., 2006 | 3 | 54 | 2 | 46 | H | 14.43% 1.29 [0.21 | , 8.10] |
| Pascoli et al, 2018 | 4 | 45 | 13 | 25 | ◆・ | 29.08% 0.09 [0.02 | 2, 0.33] |
| Khanna et al, 2014 | 3 | 88 | 15 | 86 | ← | 29.68% 0.17 [0.05 | 6, 0.60] |
| Sola-Vera et al, 2003 | 1 | 37 | 1 | 35 | | 6.14% 0.94 [0.06 | , 15.71] |
| FE Model for Subgroup (Q = 6.63, df = 3, p = 0.08; l ² = 57.4% | $\tau^2 = 0.94$) | | | | | 0.29 [0.08 | 3, 1.03] |
| FE Model for All Studies (Q = 7.71, df = 5, p = 0.17; l ² = 35.19 | $\%$, $\tau^2 = 0.00$) | | | | - | 100% 0.26 [0.13 | 3, 0.52] |
| Test for Subgroup Differences: $Q_M = 0.70$, df = 1, p = 0.40 | | | Favour | s Albumin | | Favours Control | |
| | | | | | 0.05 0.25 | 1 4 | |
| | | | | | Odds Ratio (log | scale) | |

Supplementary Figure 9 Forest plot for spontaneous bacterial peritonitis comparing albumin and control and albumin vs control across other treatment groups. A: Forest plot for spontaneous bacterial peritonitis (SBP) comparing albumin and control; B: Forest plot for SBP comparing albumin vs control across other treatment groups. 95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

| Author(s) and Year | Albu Events | min Total | Con Events | trol Total | | We | eights | Odds Ratio [95% CI] |
|------------------------------------|--------------------|-----------------|---------------|--------------------------------|-----------------|--|--------|---------------------|
| Devisetty et al,_2023 | 14 | 58 | 23 | 116 | — | | 10.61% | 1.29 [0.60, 2.74] |
| Khanna et al,_2024 | 20 | 88 | 29 | 86 | ⊢ | + | 13.48% | 0.58 [0.30, 1.13] |
| Pascoli et al,_2018 | 15 | 45 | 15 | 25 | ı | 4 | 5.90% | 0.33 [0.12, 0.92] |
| Guevara et L,_2012 | 8 | 46 | 10 | 51 | F | • | 5.71% | 0.86 [0.31, 2.42] |
| Thévenot etal, 2014_2014 | 27 | 95 | 20 | 96 | H | • | 13.70% | 1.51 [0.78, 2.93] |
| Simón-Talero et al2013 | 6 | 26 | 14 | 30 | - | + | 4.49% | 0.34 [0.11, 1.09] |
| Ginès et al_1988 | 18 | 52 | 14 | 53 | — | - | 8.65% | 1.47 [0.64, 3.40] |
| Boyer et al.,_2016 | 40 | 97 | 43 | 99 | <u></u> | • | 18.82% | 0.91 [0.52, 1.61] |
| Compean et al_2002 | 11 | 48 | 18 | 48 |) | + | 7.61% | 0.50 [0.20, 1.21] |
| Planas et al_1990 | 11 | 43 | 15 | 45 | J—— | | 7.09% | 0.69 [0.27, 1.73] |
| Abdel-Khalek and Arif_2010 | 5 | 68 | 6 | 67 | · | | 3.95% | 0.81 [0.23, 2.78] |
| FE Model for All Studies (Q = 14.2 | 25, df = 10, p = 0 | 0.16; $I^2 = 2$ | | 00) F avours Album i | n 🖣 | Favours | | 6 0.83 [0.65, 1.06] |
| | | | | Ī | Ţ | † | | |
| | | | | 0.0 | 5 0.25 | 1 4 | | |
| | | | | | Odds Ratio (log | scale) | | |

| Author(s) and Year | Albu Events | min Total | Cont Events | rol Total | | Weights | Odds Ratio [95% CI] |
|--|--|--------------|----------------|--------------|------------------------|----------------|--------------------------|
| | | | | | | | |
| Volume expander | | | | | | | |
| Abdel-Khalek and Arif, 2010 | 5 | 68 | 6 | 67 | l = - | | 3.95% 0.81 [0.23, 2.78] |
| Planas et al, 1990 | 11 | 43 | 15 | 45 | ⊢ | \dashv | 7.09% 0.69 [0.27, 1.73] |
| Compean et al, 2002 | 11 | 48 | 18 | 48 | ⊢ | | 7.61% 0.50 [0.20, 1.21] |
| FE Model for Subgroup (Q = 0.46, df = 2, p = 6 | 0.79; $I^2 = 0.0\%$, $\tau^2 = 0.00$) | | | | | | 0.62 [0.35, 1.10] |
| Vasoconstrictor | | | | | | | |
| Boyer et al.,, 2016 | 40 | 97 | 43 | 99 | ├ | - | 18.82% 0.91 [0.52, 1.61] |
| FE Model for Subgroup (Q = 0.00, df = 0, p = | 1.00; $I^2 = 0.0\%$, $\tau^2 = 0.00$) | | | | - | - | 0.91 [0.52, 1.61] |
| Inactives/Standard medical treatment | | | | | | | |
| Ginès et al, 1988 | 18 | 52 | 14 | 53 | ⊢ | | 8.65% 1.47 [0.64, 3.40] |
| Simón-Talero et al., 2013 | 6 | 26 | 14 | 30 | I | | 4.49% 0.34 [0.11, 1.09] |
| Thévenot etal, 2014, 2014 | 27 | 95 | 20 | 96 | ⊢ | - | 13.70% 1.51 [0.78, 2.93] |
| Guevara et L,, 2012 | 8 | 46 | 10 | 51 | ⊢ | — | 5.71% 0.86 [0.31, 2.42] |
| Pascoli et al., 2018 | 15 | 45 | 15 | 25 | ⊢—■ | | 5.90% 0.33 [0.12, 0.92] |
| Khanna et al,, 2024 | 20 | 88 | 29 | 86 | ⊢ | | 13.48% 0.58 [0.30, 1.13] |
| Devisetty et al,, 2023 | 14 | 58 | 23 | 116 | ⊢ | — | 10.61% 1.29 [0.60, 2.74] |
| FE Model for Subgroup (Q = 12.55, df = 6, p = | 0.05 ; $I^2 = 52.2\%$, $\tau^2 = 0.20$) | | | | | | 0.83 [0.52, 1.32] |
| FE Model for All Studies (Q = 14.25, df = 10, p | $\rho = 0.16$; $I^2 = 29.8\%$, $\tau^2 = 0.00$) | | | | • | | 100% 0.83 [0.65, 1.06] |
| Test for Subgroup Differences: Q _M = 1.24, df = 2, p = 0.54 | | | Favour | s Albumin | | avours Control | |
| | | | | | 0.05 0.25 1 | 4 | |
| | | | | | Odds Ratio (log scale) | | |

Supplementary Figure 10 Forest plot for mortality during follow up comparing albumin and control and albumin vs control across other treatment groups. A: Forest plot for mortality during follow up comparing albumin and control; B: Forest plot for mortality during follow up comparing albumin vs control across other treatment groups. 95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

Peripheral edema

| Author(s) and Year | Albu | min | Cor | itrol | | | Weights | Odds Ratio[95% CI] |
|---------------------------------------|-----------------|---------------------------|--------------------------|------------------|---------------------|------------|-----------------|---------------------|
| | Events | Total | Events | Total | | | | |
| Ginès et al_1988 | 29 | 52 | 30 | 53 | | | - 52.74% | 0.97 [0.45, 2.09] |
| Planas et al_1990 | 26 | 43 | 29 | 45 | | ⊢—■ | ——· 42.01% | 0.84 [0.36, 2.00] |
| García-Compeán et al_1993 | 0 | 17 | 0 | 18 | • | | 1.99% | 1.06 [0.02, 56.24] |
| Salerno et al_1987 | 2 | 20 | 0 | 21 | | - | → 3.26% | 5.81 [0.26, 128.90] |
| FE Model for All Studies (Q = 1.38, o | df = 3, p = 0.7 | '1; I ² = 0.0° | $\%$, $\tau^2 = 0.00$) | | | - | 100.00% | 0.97 [0.55, 1.70] |
| | | | J | Favours <i>i</i> | Albumin 0.05 | 0.25 1 | Favours Contro | I |

Odds Ratio (log scale)

| Author(s) and Year | Albu Events | ımin Total | Conf Events | rol Total | | Weights | Odds Ratio [95% CI] |
|---|--------------------|---------------|----------------|--------------|--------------------|-----------------|-----------------------|
| | | | | | | | |
| Volume expander | | | | | | | |
| · | | | | | | | 40/ 0.04/0.00 0.00 |
| Planas et al, 1990 | 26 | 43 | 29 | 45 | - | 42.0 | 1% 0.84 [0.36, 2.00] |
| FE Model for Subgroup (Q = 0.00, df = 0, p = 1.00; $I^2 = 0.0\%$ | $\tau^2 = 0.00$ | | | | | | 0.84 [0.36, 2.00] |
| | | | | | | | |
| | | | | | | | |
| Inactives/Standard medical treatment | | | | | | | |
| Salerno et al, 1987 | 2 | 20 | 0 | 21 | - | ▶ 3.26 | % 5.81 [0.26, 128.90] |
| García-Compeán et al, 1993 | 0 | 17 | 0 | 18 | • | ■ 1.99 | % 1.06 [0.02, 56.24] |
| Ginès et al, 1988 | 29 | 52 | 30 | 53 | — | 52.7 | 4% 0.97 [0.45, 2.09] |
| FE Model for Subgroup (Q = 1.21, df = 2, p = 0.55; I^2 = 0.0% | -2 - 0.00) | | | | | | 1.07 [0.51, 2.24] |
| FE Model for Subgroup (Q = 1.21, di = 2, p = 0.55, 1 = 0.0% | , τ = 0.00) | | | | | | 1.07 [0.51, 2.24] |
| | | | | | | | |
| FE Model for All Studies (Q = 1.38, df = 3, p = 0.71; 1 ² = 0.09 | $6, \tau^2 = 0.00$ | | | | • | 10 | 0.97 [0.55, 1.70] |
| Test for Subgroup Differences: $Q_M = 0.17$, df = 1, p = 0.68 | | | Favou | s Albumin | | Favours Control | |
| | | | | | 0.05 0.25 | 1 4 | |
| | | | | | Odds Ratio (log so | ale) | |

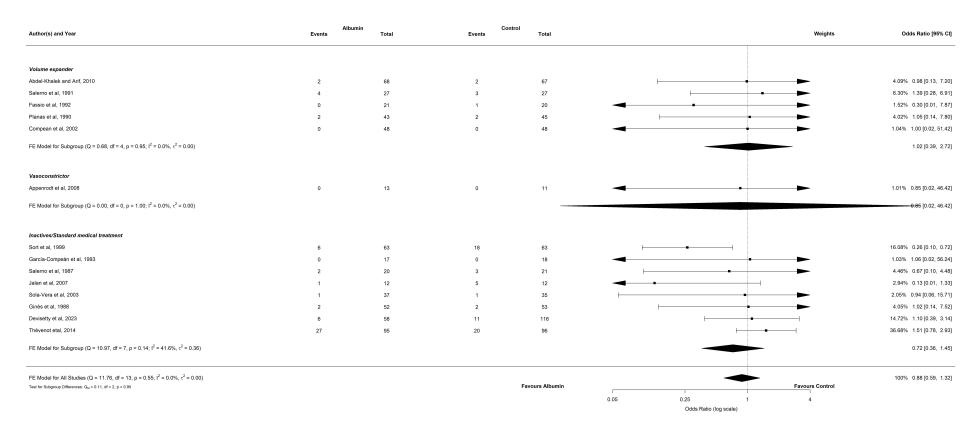
Supplementary Figure 11 Forest plot for peripheral edema comparing albumin and control and albumin vs control across other treatment groups. A: Forest plot for peripheral edema comparing albumin and control; B: Forest plot for peripheral edema comparing albumin vs control across other treatment groups. 95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.

| | | | Adver | se event | S | |
|--|--------------|---------------------------------------|--------|------------------|------------------------|---------------------------------------|
| Author(a) and Voca | Albu | min | Con | itrol | | Weights Odds Ratio [95% CI] |
| Author(s) and Year | Events | Total | Events | Total | | |
| Caraceni et al_2018 | 49 | 218 | 46 | 213 | | 74.20% 1.05 [0.67, 1.66] |
| Solà et al_2018 | 83 | 87 | 84 | 86 | | 5.18% 0.49 [0.09, 2.77] |
| Bari et al_2012 | 3 | 13 | 4 | 12 | - | 4.96% 0.60 [0.10, 3.49] |
| Boyer et al_2016 | 90 | 97 | 88 | 99 | | 15.65% 1.61 [0.60, 4.33] |
| FE Model for All Studies (Q = 1.83, df | = 3, p = 0.6 | 61; I ² = 0.0 ⁴ | | Favours <i>i</i> | Albumin Fa 0.05 0.25 1 | 100% 1.05 [0.71, 1.56] avours Control |
| | | | | | Odds Ratio (log scale) | |

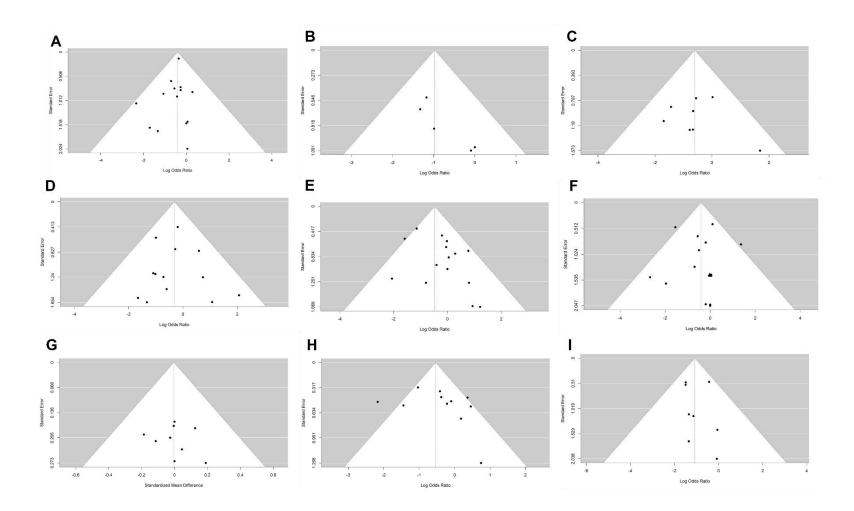
| Author(s) and Year | Albu Events | min Total | Contr Events | ol Total | | | Weights | Odds Ratio [95% CI] |
|--|---------------------------|--------------|-----------------|-------------|----------|-------------------------------|----------------|--------------------------|
| | | | | | | | | |
| Vasoconstrictor | | | | | | | | |
| Boyer et al, 2016 | 90 | 97 | 88 | 99 | | — | | 15.65% 1.61 [0.60, 4.33] |
| Bari et al, 2012 | 3 | 13 | 4 | 12 | <u> </u> | | | 4.96% 0.60 [0.10, 3.49] |
| Solà et al, 2018 | 83 | 87 | 84 | 86 | - | | | 5.18% 0.49 [0.09, 2.77] |
| FE Model for Subgroup (Q = 1.83, df = 2, p = 0.40; I^2 = 10.5 | 5% , $\tau^2 = 0.07$) | | | | | | | 1.01 [0.44, 2.34] |
| Inactives/Standard medical treatment | | | | | | | | |
| Caraceni et al, 2018 | 49 | 218 | 46 | 213 | | | - | 74.20% 1.05 [0.67, 1.66] |
| FE Model for Subgroup (Q = 0.00, df = 0, p = 1.00; I ² = 0.0% | $\%$, $\tau^2 = 0.00$) | | | | | ~ | - | 1.05 [0.67, 1.66] |
| FE Model for All Studies (Q = 1.83, df = 3, p = 0.61; l^2 = 0.0 Test for Subgroup Differences: Q_M = 0.00, df = 1, p = 0.99 | $\%$, $\tau^2 = 0.00$) | | Favours | s Albumin | | - | Favours Contro | 100% 1.05 [0.71, 1.56] |
| | | | | | 0.05 | 0.25 1 Odds Ratio (log sca | l 4 le) | |

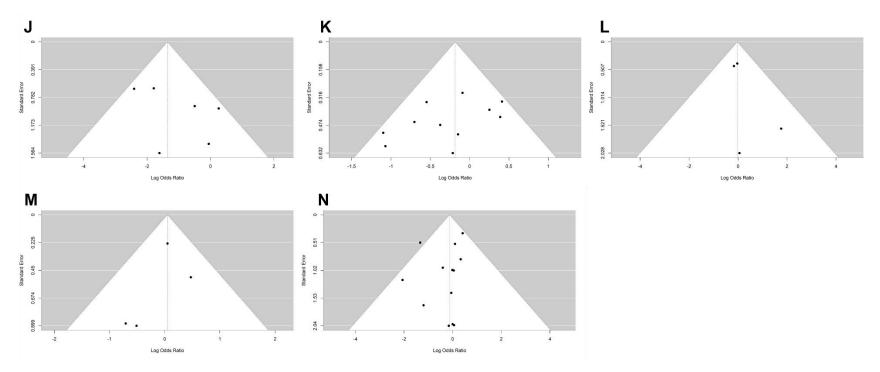
Supplementary Figure 12 Forest plot for overall AE comparing albumin and control and albumin vs control across other treatment groups. A: Forest plot for overall AE comparing albumin and control; B: Forest plot for overall AE comparing albumin vs control across other treatment groups.

| Author(s) and Year | Albu Events | min Total | Con Events | trol Total | | | | Weights C | Odds Ratio [95% C |
|------------------------------------|-----------------|--------------------------|------------------------|-----------------|--------|------------|-------------|------------------------|---------------------|
| Thévenot etal_2014 | 27 | 95 | 20 | 96 | | | | → 36.68% | 6 1.51 [0.78, 2.93] |
| Devisetty et al_2023 | 6 | 58 | 11 | 116 | | È | | ─ → 14.72% | 6 1.10 [0.39, 3.14] |
| Ginès et al_1988 | 2 | 52 | 2 | 53 | | <u> </u> | | → 4.05% | 6 1.02 [0.14, 7.52] |
| Sola-Vera et al_2003 | 1 | 37 | 1 | 35 | | | | → 2.05% | 0.94 [0.06, 15.71] |
| Jalan et al_2007 | 1 | 12 | 5 | 12 | - | | | 2.94% | 6 0.13 [0.01, 1.33] |
| Salerno et al_1987 | 2 | 20 | 3 | 21 | H | | - | 4.46% | 6 0.67 [0.10, 4.48] |
| García-Compeán et al_1993 | 0 | 17 | 0 | 18 | 4 | | | → 1.03% | 1.06 [0.02, 56.24] |
| Sort et al_1999 | 6 | 63 | 18 | 63 | H | - | - | 16.08% | 6 0.26 [0.10, 0.72 |
| Appenrodt et al_2008 | 0 | 13 | 0 | 11 | - | | | → 1.01% | 0.85 [0.02, 46.42 |
| Compean et al_2002 | 0 | 48 | 0 | 48 | - | | | → 1.04% | 1.00 [0.02, 51.42 |
| Planas et al_1990 | 2 | 43 | 2 | 45 | | 1 | <u></u> | 4.02% | 6 1.05 [0.14, 7.80 |
| Fassio et al_1992 | 0 | 21 | 1 | 20 | 4 | - | | ─ ► 1.52% | 6 0.30 [0.01, 7.87 |
| Salerno et al_1991 | 4 | 27 | 3 | 27 | | - | | → 6.30% | 6 1.39 [0.28, 6.91] |
| Abdel-Khalek and Arif_2010 | 2 | 68 | 2 | 67 | | F | - | → 4.09% | 6 0.98 [0.13, 7.20] |
| FE Model for All Studies (Q = 11.7 | 6, df = 13, p = | 0.55; I ² = 0 | $1.0\%, \tau^2 = 0.00$ |)) Favours A | lbumin | | -, | 100% Favours Contro | |
| | | | | | 0.05 | 0.25 | 1 | 4 | |
| | | | | | C | odds Ratio | (log scale |)) | |



Supplementary Figure 13 Forest plot for in hospital mortality comparing albumin and control and albumin vs control across other treatment groups. A: Forest plot for in hospital mortality comparing albumin and control; B: Forest plot for in hospital mortality comparing albumin vs control across other treatment groups. 95%CI: 95% confidence interval; df: Degrees of freedom; FE: Fixed effect.





Supplementary Figure 14 Funnel plot showing symmetric distribution of studies. A: Hyponatremia; B: Paracentesis-induced circulatory dysfunction; C: Severe infection; D: Gastrointestinal bleeding; E: Hepatic encephalopathy; F: Renal impairment; G: Hospital stay days; H: Ascites reappearance; I: Hepatorenal syndrome; J: Spontaneous bacterial peritonitis; K: Mortality during follow up; L: Peripheral edema; M: Overall adverse events; N: In hospital mortality.