SUPPLEMENTARY MATERIALS

Any Grade Adverse Events

Two (1, 2), one (3), and two studies (2, 4) reported any grade adverse event rates when using immune checkpoint inhibitor (ICI) monotherapy, ICI combined with radiotherapy, and ICI combination therapy, respectively. The pooled any grade adverse event rates were 49% (30–69%; I^2 = 82%), 77% (48–92%; I^2 not estimable), and 97% (95% confidence interval [CI], 92–99%; I^2 = 0%) when using ICI monotherapy, ICI combined with radiotherapy, and ICI combination therapy, respectively. The overall any grade adverse event rate was 81% (95% CI, 52–94%), with a substantial heterogeneity (I^2 = 93%; $p < 0.01$) (Supplementary Fig. 2). There was a significant publication bias observed in the Deeks funnel plot ($p = 0.03$).

Any Grade CNS-Related Adverse Events

Three (1, 2, 5) and two studies (2, 4) reported any grade central nervous system (CNS)-related adverse event rates when using ICI monotherapy and ICI combination therapy, respectively. There were no studies reporting any grade CNS-related adverse event rates when using ICI combined with radiotherapy. The pooled any grade CNS-related adverse event rates were 18% (6–43%; I^2 = 85%) and 33% (95% CI, 24–43%; I^2 = 19%) when using ICI monotherapy and ICI combination therapy, respectively. The overall any grade CNS-related adverse event rate was 23% (95% CI, 11–40%), with a substantial heterogeneity (I^2 = 86%; $p < 0.01$) (Supplementary Fig. 2). There was no significant publication bias observed in the Deeks funnel plot ($p = 0.71$).

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