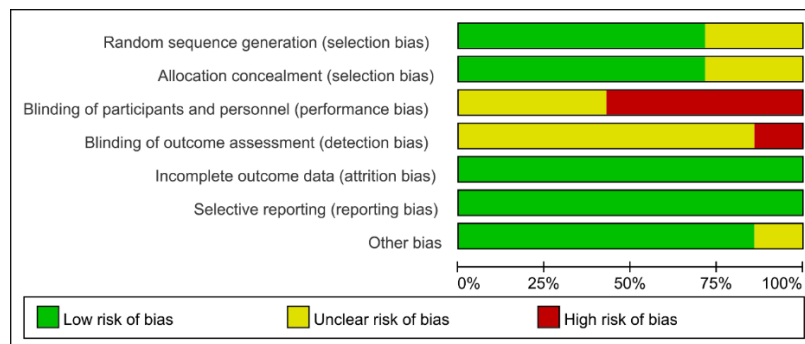


A



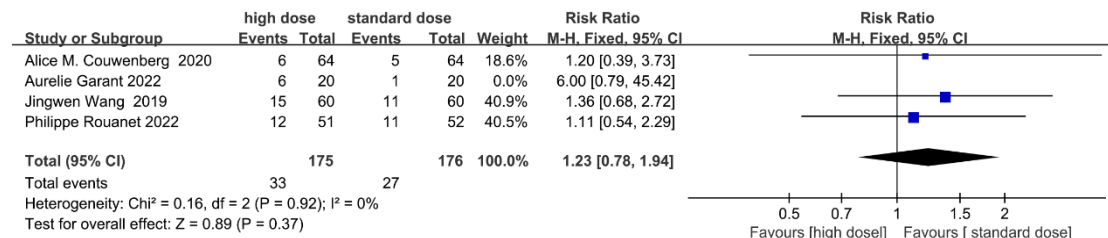
B

|                          | Random sequence generation (selection bias) | Allocation concealment (selection bias) | Blinding of participants and personnel (performance bias) | Blinding of outcome assessment (detection bias) | Incomplete outcome data (attrition bias) | Selective reporting (reporting bias) | Other bias |
|--------------------------|---------------------------------------------|-----------------------------------------|-----------------------------------------------------------|-------------------------------------------------|------------------------------------------|--------------------------------------|------------|
| Alice M. Couwenberg 2020 | +                                           | +                                       | -                                                         | -                                               | +                                        | +                                    | ?          |
| Ane L. Appelt, 2014      | +                                           | +                                       | ?                                                         | ?                                               | +                                        | +                                    | +          |
| Aurelie Garant 2022      | +                                           | +                                       | -                                                         | ?                                               | +                                        | +                                    | +          |
| Jean-Pierre Gerard 2023  | +                                           | +                                       | -                                                         | ?                                               | +                                        | +                                    | +          |
| Jingwen Wang 2019        | ?                                           | ?                                       | ?                                                         | ?                                               | +                                        | +                                    | +          |
| O. Yariv 2024            | ?                                           | ?                                       | ?                                                         | ?                                               | +                                        | +                                    | +          |
| Philippe Rouanet 2022    | +                                           | +                                       | -                                                         | ?                                               | +                                        | +                                    | +          |

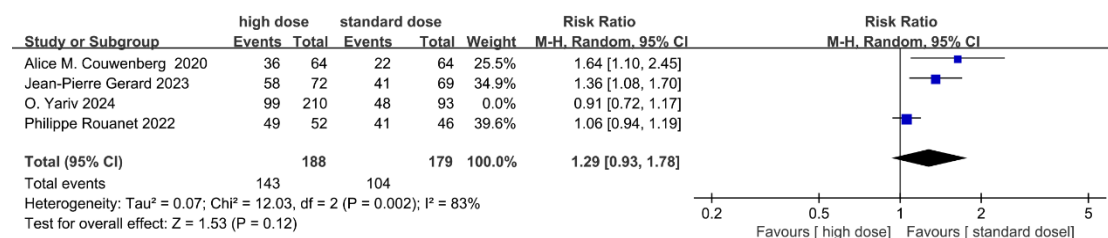
**Supplementary Figure 1 Risk-of-bias assessment for included randomized trials.** A: Risk of bias graph summarizing the proportion of studies rated as low, unclear, or high risk across each domain of the Cochrane Risk of Bias tool; B: Risk of bias summary presenting the risk-of-bias judgments for each included study across all

domains of the Cochrane tool.

**A**



**B**



**Supplementary Figure 2 Sensitivity analyses for key secondary outcomes.** A: Forest plot of grade  $\geq 3$  toxicity after exclusion of Garant *et al*[21], showing no statistically significant difference between high-dose and standard-dose radiotherapy (RR = 1.23, 95%CI: 0.78-1.94;  $P = 0.37$ ;  $I^2 = 0\%$ ); B: Forest plot of organ preservation after exclusion of Yariv *et al*[17], showing no statistically significant difference between high-dose and standard-dose radiotherapy (RR = 1.29, 95%CI: 0.93-1.78;  $P = 0.12$ ;  $I^2 = 83\%$ ).

**Supplementary Table 1 Leave-one-out sensitivity analysis for clinical complete response**

| Ref.                               | RR (95% CI)      | $I^2$ (%) |
|------------------------------------|------------------|-----------|
| All studies included               | 1.34 (1.00-1.80) | 75        |
| Yariv <i>et al</i> [17], 2024      | 1.51 (1.28-1.78) | 0         |
| Gerard <i>et al</i> [16], 2023     | 1.32 (0.84-2.06) | 79        |
| Couwenberg <i>et al</i> [19], 2020 | 1.53 (1.08-2.17) | 82        |
| Garant <i>et al</i> [21], 2022     | 1.25 (0.89-1.76) | 79        |

RR: Risk ratio;  $I^2$ : I-squared statistic.