**Supplementary Material**

**Supplementary Table 1.** Characteristics of the included studies, summarizing key details such as study design, number of randomized patients, patient types, mean age, cancer types, treatment and control arms, follow-up duration, and primary and secondary outcome(s).

| **Study** | **ADAM VTE[1]** | **CANVAS[2]** | **CARAVAGGIO[3]** | **CASTA-DIVA[4]** | **Guntupalli et al., 2020[5]** | **HOKUSAI-VTE[6]** | **Prins et al., 2014[7]** | **SELECT-D[8]** |
|---|---|---|---|---|---|---|---|---|
| Study design | Randomized, open label, superiority trial with blinded central outcome adjudication | Randomized cohort of an unblinded hybrid comparative effectiveness non-inferiority trial | Randomized, open label, noninferiority trial with blinded central outcome adjudication | Randomized, open label, noninferiority trial with blinded central outcome adjudication | Patient-based, multicenter, open-label, blinded, end point, randomized clinical trial | Non inferiority Randomized, open label, noninferiority trial with blinded central outcome adjudication | Multicenter, open-label randomized clinical trial | Randomized, open-label, pilot trial with blinded central outcome adjudication |
| Number of randomized patients | 287 | 671 | 1155 | 158 | 400 | 1046 | 655 | 406 |
| Types of patients included | Active cancer patients with acute DVT (including upper extremity), PE, splanchnic or cerebral vein thrombosis | Patients with cancer and acute VTE | Patients with active or recent cancer and acute DVT or PE | Patients with active cancer and acute DVT or PE at high risk of recurrent VTE | Patient with Gynecologic cancer undergoing surgery | Patients with active cancer and symptomatic or incidental popliteal, femoral or iliac or IVC DVT, symptomatic or incidental PE | Patients with history of cancer and active cancer documented with DVT and PE | Patients with active cancer and symptomatic DVT, symptomatic PE, or incidental PE |
| Mean age | 64 | Not reported | 67 | 69 | 58 | 64 | 63 | 67 |

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|---|---|---|---|---|---|---|---|---|
| Types of cancers included | Colorectal: 16%<br>Lung: 17%<br>Breast: 9%<br>Genitourinary: 9%<br>Gynecologic: 10%<br>Pancreatic or hepatobiliary: 16%<br>Upper gastrointestinal: 4%<br>Hematological malignancies: 8%<br>Other: 11% | Not Specified | Colorectal: 20%<br>Lung: 17%<br>Breast: 13%<br>Genitourinary: 9%<br>Gynecologic: 10%<br>Pancreatic or hepatobiliary: 8%<br>Upper gastrointestinal: 5%<br>Hematological malignancies: 7%<br>Other: 11% | Gastro-intestinal: 20%<br>Lung: 18%<br>Breast: 12%<br>Genitourinary: 13%<br>Gynecologic: 8%<br>Hematological malignancies: 8%<br>Other: 21% | Gynecologic Cancer | Colorectal: 15%<br>Lung: 15%<br>Breast: 12%<br>Genitourinary: 13%<br>Gynecologic: 11%<br>Pancreatic or hepatobiliary: 9%<br>Upper gastrointestinal: 5%<br>Hematological malignancies: 11%<br>Other: 10% | (Percentage not specified) breast, upper gastrointestinal (including liver and pancreas), lower gastrointestinal, lung, genitourinary tract, brain, hematological system, skin (excluding basal-cell or squamous-cell carcinoma), basal cell or squamous-cell carcinoma, unspecified, other, or combinations. | Colorectal: 25%<br>Lung: 12%<br>Breast: 10%<br>Genitourinary: 17%<br>Gynecologic: 10%<br>Pancreatic or hepatobiliary: 8%<br>Upper gastrointestinal: 10%<br>Hematological malignancies: 8%<br>Other: 10% |
| Treatment arm | Apixaban 10 mg twice daily for 7 days, followed by 5 mg twice daily | Any DOACs | Apixaban 10 mg twice daily for 7 days, followed by 5 mg twice daily | Rivaroxaban 15 mg twice daily for 21 days, followed by 20 mg once daily | Apixaban (2.5 mg twice daily) for 28 days | Therapeutic dose of LMWH for at least 5 days followed by edoxaban 60 or 30 mg once daily | Rivaroxaban was given 15 mg orally twice daily for 21 days, followed by 20 mg once daily. | Rivaroxaban 15 mg twice daily for 21 days, followed by 20 mg once daily |
| Control arm | Dalteparin 200 IU/kg once daily for 1 month | Any LMWH | Dalteparin 200 IU/kg once daily for 1 month followed by | Dalteparin 200 IU/kg once daily for 1 month | Subcutaneous enoxaparin (40 mg daily) for 28 days | Dalteparin 200 IU/kg once daily for 1 month followed by | Enoxaparin subcutaneously at a dose of 1·0 mg/kg body | Dalteparin 200 IU/kg once daily for 1 month followed by |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | followed by 150 IU/kg once daily | | 150 IU/kg once daily | followed by 150 IU/kg once daily | | 150 IU/kg once daily | weight twice daily and either oral warfarin or acenocoumarol (target international normalized ratio [INR] 2·0–3·0), | 150 IU/kg once daily |
| Duration of follow-up | 3 months | 6 months | 6 months | 12 months | 3 months | 6 months | 12 months | 6 months |
| Primary outcome(s) | MB<br>Secondary outcomes included VTE recurrence and a composite of major plus clinically relevant non-major bleeding (CRNMB). | Efficacy: Recurrent VTE<br>Safety: Major bleeding | Efficacy: Recurrent VTE<br>Safety: Major bleeding | Efficacy: Composite of recurrent VTE and worsening of pulmonary vascular or venous obstruction on systematic examinations<br>Safety: Major bleeding | symptomatic recurrent venous thromboembolism or nonfatal pulmonary embolism | Composite of recurrent VTE or major bleeding | Incidence of major bleeding and CRNM bleeding events occurring during the treatment phase and in the 30 days after treatment | VTE recurrence over 6 months.<br>Safety was assessed by major bleeding and clinically relevant nonmajor bleeding (CRNMB). |
| Secondary outcome(s) | VTE recurrence<br>CRNMB<br>Mortality | None | CRNMB<br>Mortality | CRNMB<br>Mortality | Not specified | VTE recurrence<br>MB<br>CRNMB<br>Mortality | Incidence of VTE outcomes during treatment and in the 60-day posttreatment period, medication adherence | MB<br>CRNMB<br>Mortality |

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|---|---|---|---|---|---|---|---|---|
| | | | | | | | rates, quality of life, and satisfaction of use for oral apixaban compared with subcutaneous enoxaparin | |

**Supplementary table 2.** Sensitivity analysis for VTE recurrence

| | Total Patients | RR (95% CI) | Heterogeneity P-value | $I^2$ |
|---|---|---|---|---|
| Without ADAM VTE[1] | 4458 | 0.67 [0.54, 0.84] | 0.98 | 0% |
| Without CANVAS[2] | 4107 | 0.64 [0.50, 0.81] | 0.66 | 0% |
| Without CARAVAGGIO[3] | 3590 | 0.63 [0.49, 0.81] | 0.67 | 0% |
| Without CASTA-DIVA[4] | 4587 | 0.64 [0.51, 0.80] | 0.66 | 0% |
| Without Guntupalli 2020[5] | 4345 | 0.64 [0.52, 0.80] | 0.66 | 0% |
| Without HOKUSAI-VTE[6] | 3699 | 0.62 [0.47, 0.81] | 0.67 | 0% |
| Without Prins 2014[7] | 4090 | 0.64 [0.51, 0.81] | 0.66 | 0% |
| Without SELECT-D[8] | 4339 | 0.66 [0.53, 0.83] | 0.79 | 0% |

**Supplementary table 3.** Sensitivity analysis for MB

| | Total Patients | RR (95% CI) | Heterogeneity P-value | $I^2$ |
|---|---|---|---|---|
| Without ADAM VTE[1] | 4458 | 1.06 [0.71, 1.58] | 0.16 | 35% |
| Without CANVAS[2] | 4107 | 1.00 [0.60, 1.66] | 0.11 | 42% |
| Without CARAVAGGIO[3] | 3590 | 1.01 [0.59, 1.71] | 0.11 | 41% |
| Without CASTA-DIVA[4] | 4587 | 1.05 [0.69, 1.60] | 0.14 | 38% |
| Without Guntupalli 2020[5] | 4345 | 1.01 [0.65, 1.57] | 0.11 | 43% |
| Without HOKUSAI-VTE[6] | 3699 | 0.88 [0.61, 1.28] | 0.39 | 4% |
| Without Prins 2014[7] | 4090 | 1.23 [0.90, 1.69] | 0.45 | 0% |
| Without SELECT-D[8] | 4339 | 0.94 [0.60, 1.46] | 0.16 | 36% |

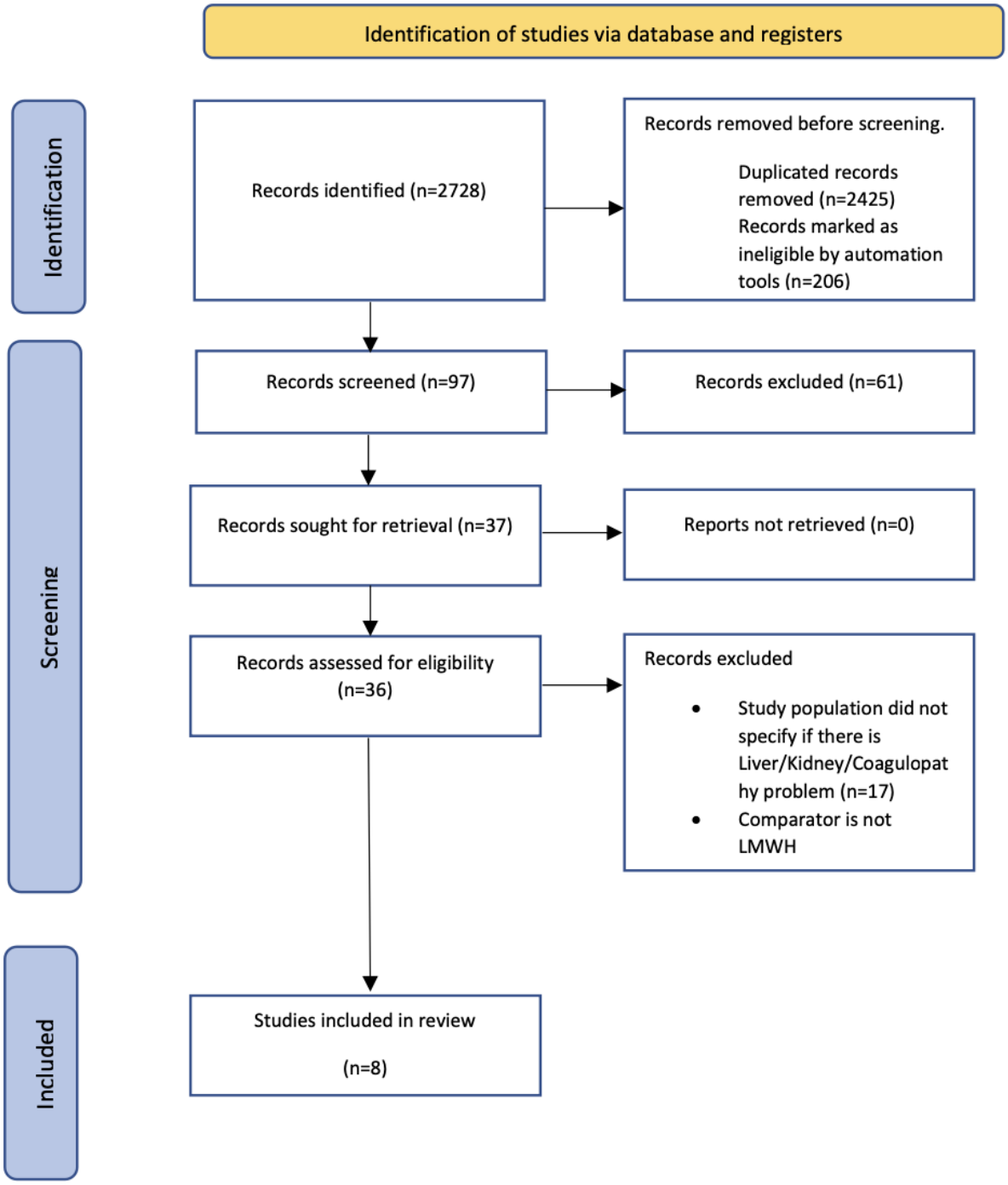
**Supplementary table 4.** Sensitivity analysis for CRNMB

| | Total Patients | RR (95% CI) | Heterogeneity P-value | $I^2$ |
|---|---|---|---|---|
| Without ADAM VTE[1] | 3662 | 1.23 [0.81, 1.87] | 0.0003 | 75% |
| Without CARAVAGGIO[3] | 2794 | 1.18 [0.74, 1.88] | 0.006 | 72% |
| Without Guntupalli 2020[5] | 3549 | 1.37 [0.94, 2.00] | 0.02 | 67% |
| Without HOKUSAI-VTE[6] | 2903 | 1.23 [0.73, 2.05] | 0.004 | 74% |
| Without Prins 2014[7] | 3294 | 1.37 [0.90, 2.08] | 0.03 | 63% |
| Without SELECT-D[8] | 3543 | 1.08 [0.79, 1.47] | 0.08 | 52% |

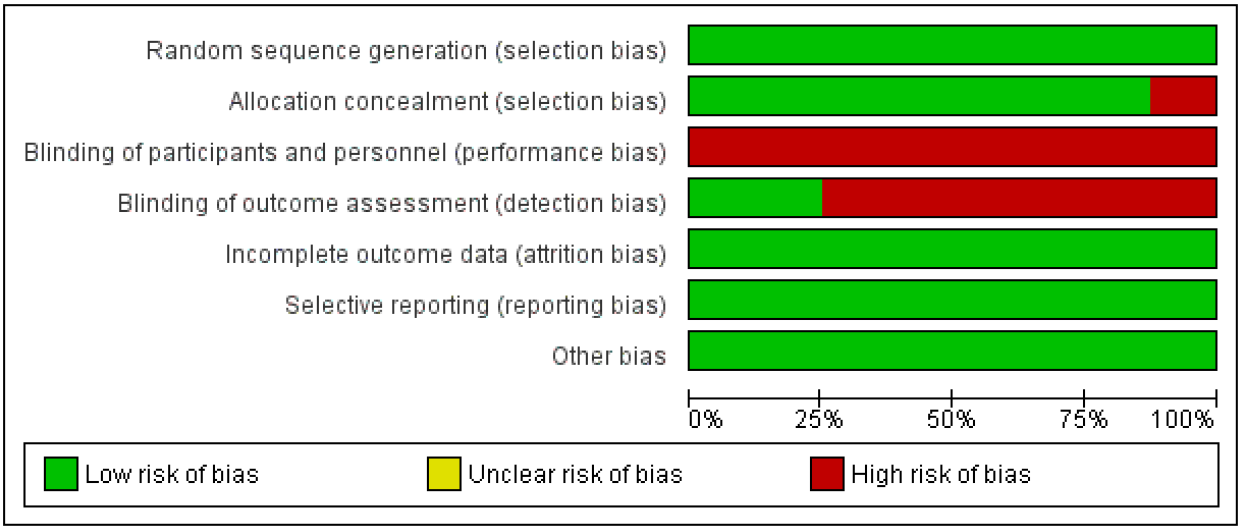
**Supplementary table 5.** Sensitivity analysis for all-cause mortality.

| | Total Patients | RR (95% CI) | Heterogeneity P-value | $I^2$ |
|---|---|---|---|---|
| Without ADAM VTE[1] | 3652 | 1.01 [0.91, 1.12] | 0.5 | 0% |
| Without CANVAS[2] | 3301 | 1.01 [0.90, 1.12] | 0.38 | 5% |
| Without CARAVAGGIO[3] | 2784 | 1.09 [0.96, 1.23] | 0.72 | 0% |
| Without CASTA-DIVA[4] | 3781 | 1.02 [0.92, 1.14] | 0.3 | 17% |
| Without HOKUSAI-VTE[6] | 2893 | 0.99 [0.86, 1.14] | 0.38 | 5% |
| Without Prins 2014[7] | 3284 | 1.04 [0.93, 1.16] | 0.34 | 12% |

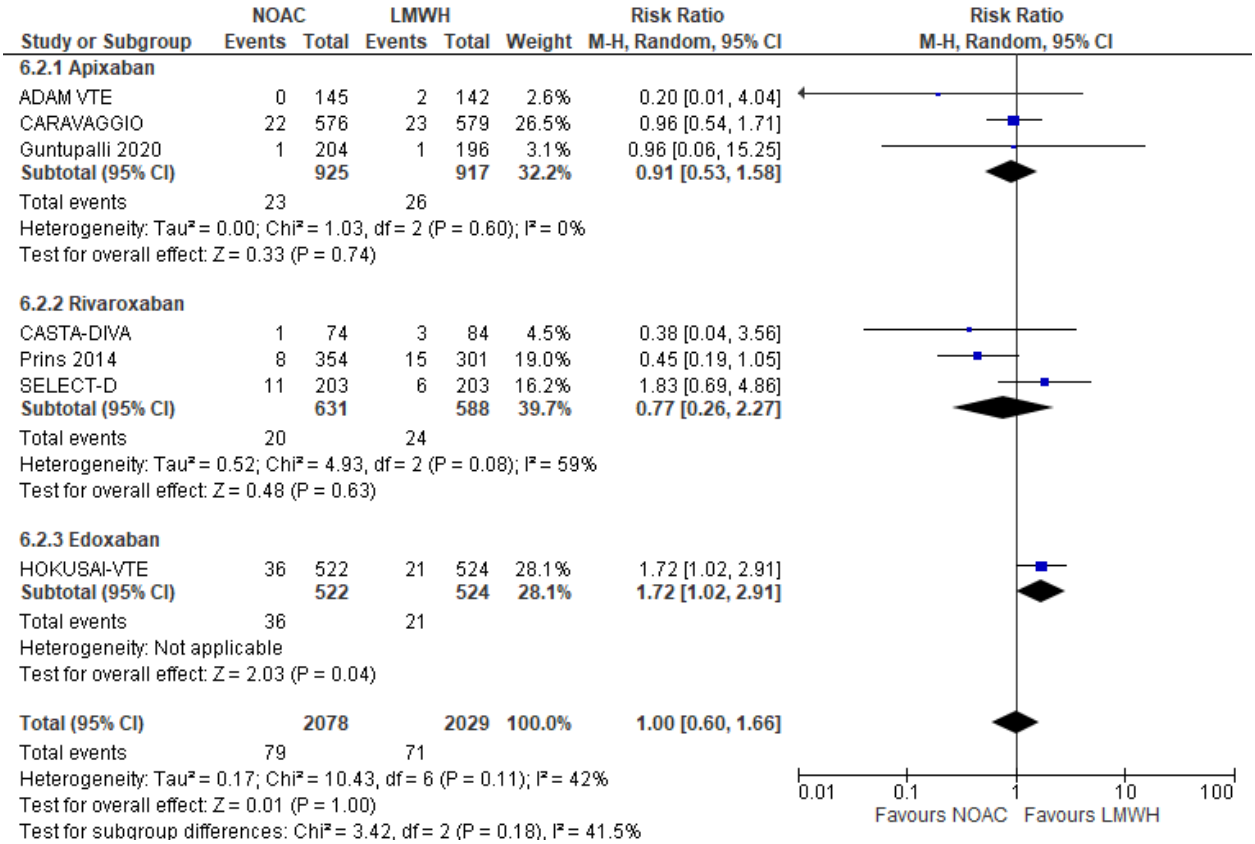
**Supplementary Figure 1.** Flowchart illustrating the identification and selection of studies through database searches and registry screening.



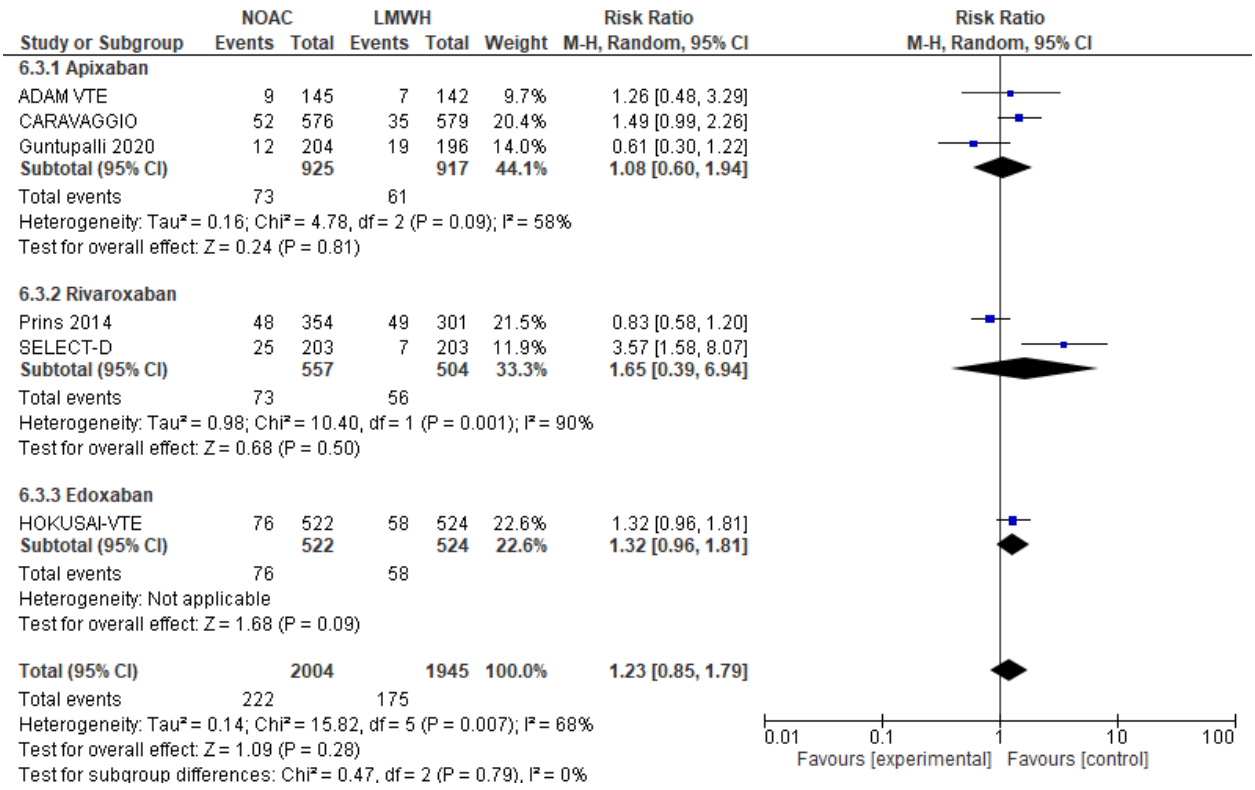
**Supplementary Figure 2.** Risk of bias graph.




**Supplementary Figure 3.** The forest plot shows a subgroup analysis of MB, categorized by the type of DOAC used.



**Supplementary Figure 4.** The forest plot presents a subgroup analysis of CRNMB, grouped by the type of DOACs used.

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