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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | TKI | Design | N | Age in TKIgroup (range) | MAC | CR attransplant | NPM1 mutation | High-riskcytogenetics | Length offollow-up | MRD beforetransplant | MRD aftertransplant |
| Ahmed 2017 | Sorafenib | retrospective | 1326 | NR | NR | NR | NR | NR | 12 months 30 months | NR | NR |
| Bazarbachi 2019 | Sorafenib | retrospective | 34118 | 4851 | 2356 | 1872 | 1441 | NR | 22.69 months19.74 months | NR | 2350 |
| Brunner 2016 | Sorafenib | retrospective | 2643 | 5556 | 1427 | NR | 1421 | 24 | 27.2months | NR | NR |
| Burchert 2020 | Sorafenib | phase II trial | 4340 | 54.1753.39 | 1819 | 912 | 87 | 13 | 41.8 months | 2524 | 910 |
| Chappell 2019 | Sorafenib | retrospective | 2955 | 4954 | NR | NR | NR | NR | 12 months  | NR | NR |
| Li Xuan 2018 | Sorafenib | retrospective | 3250 | 3734 | NR | 3028 | NR | NR | 707 days | NR | NR |
| Li Xuan 2020 | Sorafenib | phase 3 trial | 100102 | 3535 | NR | 7379 | 2926 | 75 | 21·3 months | 513 | 911 |
| Maziarz 2020 | Midostaurin | a phase 2 | 3030 | 4856 | NR | NR | NR | NR | 24 months | NR | NR |
| Shi 2020 | Sorafenib | retrospective | 2432 | 2440 | NR | NR | NR | NR | 24 months | NR | NR |

TABLE 1 | Study characteristics of 9 studies with control.

TKI, tyrosine kinase inhibitor; N, number; CR, complete remission; HSCT, hematopoietic stem-cell transplantation; MAC, myeloablative conditioning; NR, not reported.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | TKI | Design | N | Age  | MAC | CR attransplant | NPM1 mutation | High-riskcytogenetics | Length offollow-up | MRD beforetransplant | MRD aftertransplant |
| Battipaglia 2017 | Sorafenib | prospective | 27 | 54 | 20 | 22 | 7 | NR | 18 months  | 12 | NR |
| Chen 2014 | Sorafenib | prospective | 22 | 54 | 12 | 16 | 12 | NR | 16.7 months | NR | NR |
| Metzelder 2017 | Sorafenib | retrospective | 29 | 45 | 11 | 14 | 2 | NR | 7.5 years | NR | NR |
| Pratz 2020 | Sorafenib | prospective | 44 | 52 | 16 | NR | 25 | NR | 27.6 months | 17 | NR |
| Sandmaie 2017 | quizartinib | prospective | 13 | 43 | NR | 10 | 6 | NR | NR | NR | NR |
| Tarlock 2015 | Sorafenib | retrospective | 15 | 14 | NR | NR | NR | NR | 3.4 years | NR | NR |

TABLE 2 | Study characteristics 6 studies without control.

TKI, tyrosine kinase inhibitor; N, number; CR, complete remission; HSCT, hematopoietic stem-cell transplantation; MAC, myeloablative conditioning; NR, not reported.

Fig.S1.1

Fig.S1.2

Fig.S1.3

Supplemental Fig. 1 Pooled results of tumor response in the FLT3 Inhibitors group

Fig.S1.1 Pooled results of OS was 66% (95% CI, 45–85%, I2 = 84.15%). Fig.S1.2 The pooled LFS rate was 72% (95% CI, 62–80%, I2 = 0%;). Fig.S1.3 Pooled results of relapse rate was 21% (95% CI, 3–45%, I2 = 69%).

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|  |  |
| Fig.S2.1 | Fig.S2.4 |
|  |  |
|  |  |
| Fig.S2.2 | Fig.S2.5 |
|  |  |
|  | Supplemental Fig. 2 Pooled results of toxic effects in the FLT3 Inhibitors groupFig.S2.1 Pooled results of hematological toxic effects rate was 46% (95% CI, 22–74%, I2 = 88.02%). Fig.S2.2 The pooled gastrointestinal effects rate was 24% (95% CI, 15–34%, I2 = 28.03%). Fig.S2.3 Pooled results of cardiovascular effects rate was 12% (95% CI, 3–25%, I2 = 67.34%). Fig.S2.4 Pooled results of  |
| Fig.S2.3 | cutaneous effects rate was 22% (95% CI, 6–42%, I2 = 80.66%). Fig.S2.5 Pooled results of biochemical effects rate was 12% (95% CI, 1–28%, I2 = 77.56%). |
|  |  |



Fig.S3.1



Fig.S3.2

Supplemental Fig. 3 Pooled results of GVHD rate in the FLT3 Inhibitors group

Fig.S3.1 Pooled results of aGVHD rate was 29% (95% CI, 9–53%, I2 = 85.50%). Fig.S3.2 The pooled cGVHD rate was 70% (95% CI, 2–48%, I2 = 89.99%).

**Supplemental strategy**

((((((((((((((((((((((((("FF-10101" [Supplementary Concept]) OR "TTT-3002" [Supplementary Concept]) OR "G-749 compound" [Supplementary Concept]) OR "cabozantinib" [Supplementary Concept]) OR "tandutinib" [Supplementary Concept]) OR "gilteritinib" [Supplementary Concept]) OR "quizartinib" [Supplementary Concept]) OR "lestaurtinib" [Supplementary Concept]) OR "midostaurin" [Supplementary Concept]) OR "Sunitinib"[Mesh]) OR "Sorafenib"[Mesh]) OR "crenolanib" [Supplementary Concept]) OR ("FF-10101"[Title/Abstract] OR "(E)-N-((2R)-1-(5-(2-(4-cyanoanilino)-4-(propylamino)pyrimidin-5-yl)pent-4-ynylamino)-1-oxopropan-2-yl)-4-(dimethylamino)-N-methylbut-2-enamide"[Title/Abstract])) OR ("TTT-3002"[Title/Abstract])) OR ("2-hydroxy-1-(2-((9-(4-methylcyclohexyl)-9H-pyrido(4',3'-4,5)pyrrolo(2,3-d)pyrimidin-2-yl)amino)-7,8-dihydro-1,6-naphthyridin-6(5H)-yl)ethenone"[Title/Abstract] OR "AMG 925"[Title/Abstract])) OR ("G-749 compound"[Title/Abstract])) OR (("Cabozantinib"[Title/Abstract] OR "Cometriq"[Title/Abstract] OR "XL\*"[Title/Abstract] OR "BMS\*"[Title/Abstract]))) OR ("Crenolanib"[Title/Abstract] OR "CP-868,596"[Title/Abstract])) OR ("Gilteritinib"[Title/Abstract] OR "ASP\* "or"Xospata"[Title/Abstract])) OR ("Quizartinib"[Title/Abstract] OR "AC220 compound"[Title/Abstract])) OR ("Lestaurtinib"[Title/Abstract] OR "CEP\*"[Title/Abstract] OR "KT\*"[Title/Abstract])) OR ("Midostaurin"[Title/Abstract] OR "benzoylstaurosporine"[Title/Abstract] OR "4'-N-benzoyl\*"[Title/Abstract] OR "N-((9S,10R,11R,13R)-10-methoxy-9-methyl-1-oxo-2,3,10,11,12,13-hexahydro-9,13-epoxy-1H,9H-diindolo(1,2,3-GH:3',2',1'-lm)pyrrolo(3,4-j)(1,7)benzodiazonin-11-yl)-n-methylbenzamide"[Title/Abstract] OR "PKC\*"[Title/Abstract] OR "Rydapt"[Title/Abstract] OR "CGP\*"[Title/Abstract])) OR ("Sunitinib\*"[Title/Abstract] OR "5-(5-Fluoro-2-oxo-1,2-dihydroindolylidenemethyl)-2,4-dimethyl-1H-pyrrole-3-carboxylic acid (2-diethylaminoethyl)amide"[Title/Abstract] OR "Sutent"[Title/Abstract] OR "SU\*"[Title/Abstract])) OR ("Sorafenib\*"[Title/Abstract] OR "Nexavar"[Title/Abstract] OR "BAY\*"[Title/Abstract] OR "4-(4-(3-(4-Chloro-3-trifluoromethylphenyl)ureido)phenoxy)pyridine-2-carboxylic acid methyamide-4-methylbenzenesulfonate"[Title/Abstract])) OR ("flt3 inhibitor\*"[Title/Abstract] OR "flt3 inhibition"[Title/Abstract])) AND ((((ASCT[Title/Abstract] OR ABMT[Title/Abstract] OR PBPC[Title/Abstract] OR PBSCT[Title/Abstract] OR PSCT[Title/Abstract] OR BMT[Title/Abstract] OR SCT[Title/Abstract]) OR ("Hematopoietic Stem Cell Transplantation"[Mesh])) OR ((((((homotransplant\*[Title/Abstract] OR homo‐transplant\*[Title/Abstract] OR homotrasplant\*[Title/Abstract] OR homo‐trasplant\*[Title/Abstract]) OR (homograft\*[Title/Abstract] OR homo‐graft\*[Title/Abstract])) OR (allogen\*[Title/Abstract] OR allo‐gen\*[Title/Abstract])) OR (allotransplant\*[Title/Abstract] OR allo‐transplant\*[Title/Abstract] OR allotrasplant\*[Title/Abstract] OR allo‐trasplant\*[Title/Abstract])) OR (allograft\*[Title/Abstract] OR allo‐graft\*[Title/Abstract])) OR ("Transplantation, Homologous"[Mesh]))) AND ((((aml[Title/Abstract]) OR ("Leukemia, Myeloid, Acute"[Mesh])) OR ((acut\*[Title/Abstract] OR akut\*[Title/Abstract] OR agud\*[Title/Abstract] OR aigu\*[Title/Abstract]) AND ((myelo\*[Title/Abstract] OR nonlympho\*[Title/Abstract] OR granulocytic\*[Title/Abstract] OR mielo\*[Title/Abstract] OR myeloid\*[Title/Abstract] OR myelocytic\*[Title/Abstract]) AND (Leukem\*[Title/Abstract] OR leukaem\*[Title/Abstract] OR leuc\*[Title/Abstract])))) OR (("Leukemia, Myeloid"[Mesh]) AND "Acute Disease"[Mesh])))