DAPT vs Monotherapy: Systematic Review with ☸SAIMSARA.

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Abstract: This paper aims to systematically review and synthesize the available evidence comparing dual antiplatelet therapy (DAPT) with antiplatelet monotherapy across various cardiovascular and cerebrovascular clinical settings, focusing on efficacy and safety outcomes. The review utilises 346 studies with 2215201 total participants (naïve ΣN). The extensive body of evidence reviewed highlights a significant shift towards antiplatelet monotherapy, particularly with P2Y12 inhibitors, after a short duration of dual antiplatelet therapy (DAPT). This strategy consistently demonstrates a substantial reduction in major bleeding events, with the median major bleeding rate in monotherapy groups being 1.0% (range: 0.4%–3.6%) compared to 3.2% (range: 1.2%–5.4%) in prolonged DAPT groups. Crucially, this safety benefit is generally achieved without an increase in ischemic events, and in some contexts, P2Y12 inhibitor monotherapy, especially ticagrelor or clopidogrel, has shown superiority over aspirin monotherapy in preventing ischemic events. While the evidence strongly supports tailored antiplatelet strategies based on individual patient risk profiles, the heterogeneity in study designs remains a limitation. Future research should prioritize large-scale, long-term comparative effectiveness trials to further refine optimal antiplatelet regimens for diverse patient populations.

Keywords: Dual antiplatelet therapy; Monotherapy; Percutaneous coronary intervention; Acute coronary syndromes; Drug-eluting stents; Bleeding events; Ischemic events; P2Y12 inhibitor; Major adverse cardiac and cerebrovascular events; High bleeding risk

Review Stats

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- Source: Semantic Scholar
- Scope: All fields
- Keyword Gate: Fuzzy (≥60% of required terms, minimum 2 terms matched in title/abstract)
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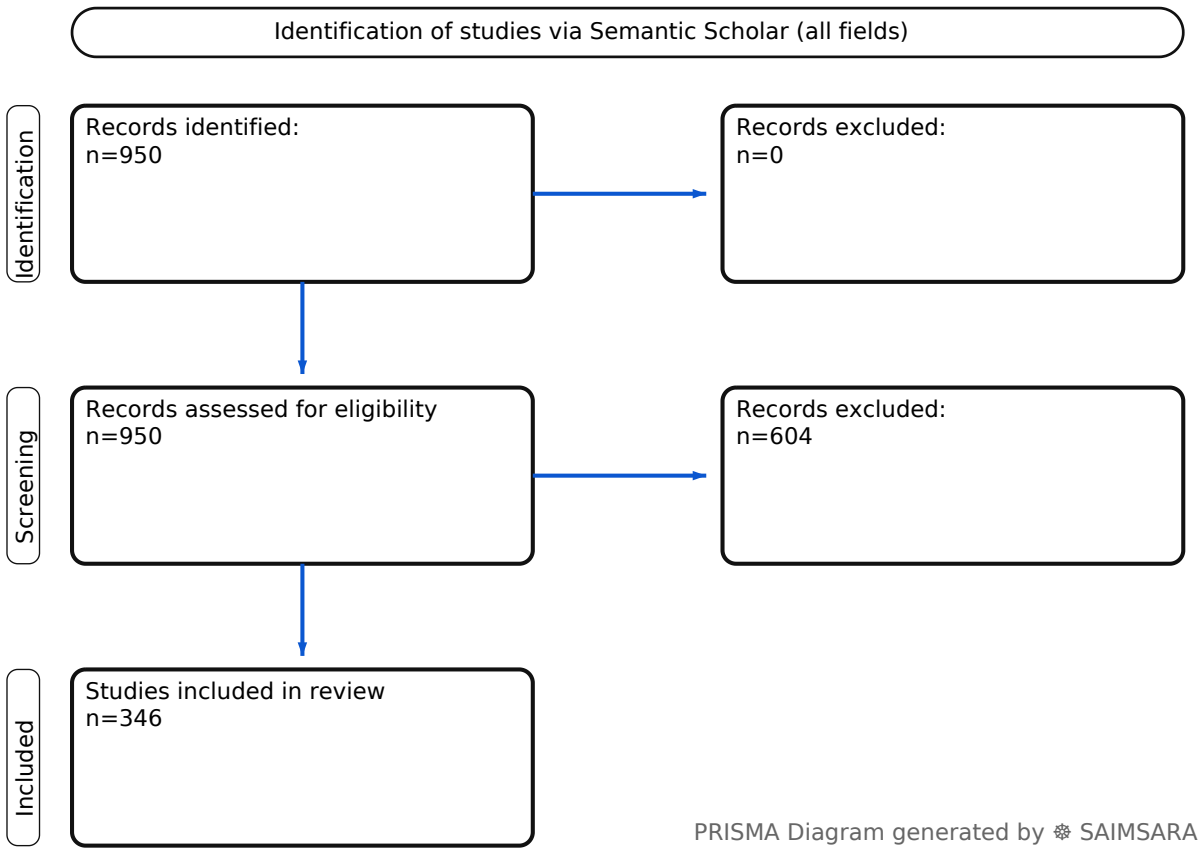
- Included original Abstracts/Papers: 346
- Total study participants (naïve ΣN): 2215201



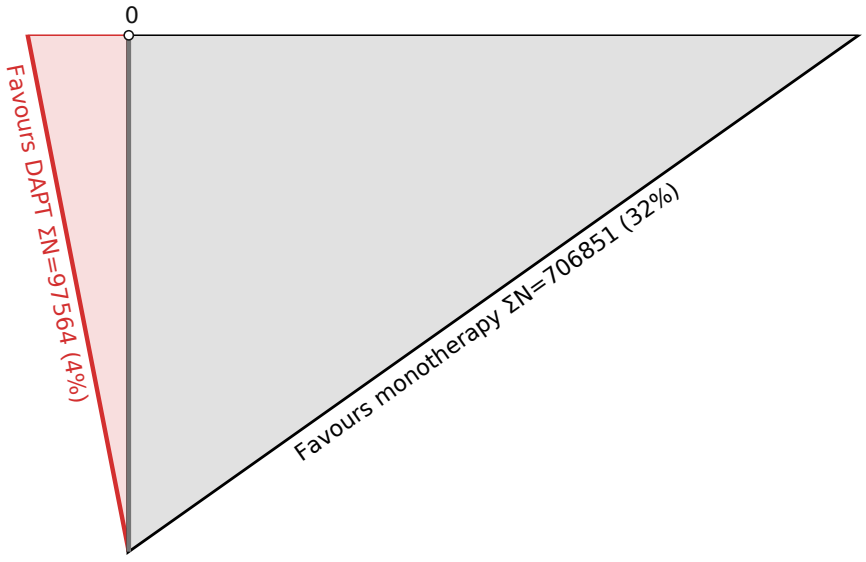
PRISMA Diagram generated by ☸ SAIMSARA

△OSMA Triangle

Head-to-Head (A vs B)

DAPT vs monotherapy — Outcome

Legend: “Favours DAPT” = left edge, “Favours monotherapy” = right edge; “Neutral” = vertical.



Neutral ΣN=1410786 (64%)

△OSMA Triangle generated by ☸SAIMSARA

Outcome-Sentiment Meta-Analysis (OSMA): *(LLM-only)*

Frame: Head-to-Head (A vs B) • *Source*: Semantic Scholar

Comparators: A = DAPT; B = monotherapy

Outcome: Outcome Typical timepoints: 12-mo, 3-mo. Reported metrics: %, CI, p.

Common endpoints: Common endpoints: complications, mortality, recurrence.

Predictor: DAPT vs monotherapy — exposure/predictor. Doses/units seen: 5 mg, 27 kg, 100mg, 75mg, 3.75 mg, 100 mg…. Routes seen: oral, intravenous.

- **1) A favored (DAPT)** — Outcome with DAPT vs monotherapy — [54], [74], [101], [108], [164], [169], [182], [212], [213], [220], [223], [226], [230], [235], [238], [283], [317], [325], [326], [330] — ΣN=97564
- **2) B favored (monotherapy)** — Outcome with DAPT vs monotherapy — [2], [6], [8], [9], [12], [14], [16], [21], [23], [24], [29], [31], [34], [38], [40], [41], [42], [45], [48], [49], [51], [52], [57], [61], [63], [66], [68], [69], [72], [73], [78], [79], [80], [83], [84], [91], [100], [105], [110], [111], [113], [118], [121], [127], [131], [132], [134], [135], [138], [139], [142], [144], [146], [149], [150], [151], [155], [158], [174], [186], [236], [239], [242], [243], [244], [247], [250], [260], [266], [269], [270], [276], [278], [280], [282], [290], [296], [300], [302], [309], [311], [319], [321], [328] — ΣN=706851
- **3) Neutral (no difference)** — Outcome with DAPT vs monotherapy — [1], [3], [4], [5], [7], [10], [11], [13], [15], [17], [18], [19], [20], [22], [25], [26], [27], [28], [30], [32], [33], [35], [36], [37], [39], [43], [44], [46], [47], [50], [53], [55], [56], [58], [59], [60], [62], [64], [65], [67], [70], [71], [75], [76], [77], [81], [82], [85], [86], [87], [88], [89], [90], [92], [93], [94], [95], [96], [97], [98], [99], [102], [103], [104], [106], [107], [109], [112], [114], [115], [116], [117], [119], [120], [122], [123], [124], [125], [126], [128], [129], [130], [133], [136], [137], [140], [141], [143], [145], [147], [148], [152], [153], [154], [156], [157], [159], [160], [161], [162], [163], [165], [166], [167], [168], [170], [171], [172], [173], [175], [176], [177], [178], [179], [180], [181], [183], [184], [185], [187], [188], [189], [190], [191], [192], [193], [194], [195], [196], [197], [198], [199], [200], [201], [202], [203], [204], [205], [206], [207], [208], [209], [210], [211], [214], [215], [216], [217], [218], [219], [221], [222], [224], [225], [227], [228], [229], [231], [232], [233], [234], [237], [240], [241], [245], [246], [248], [249], [251], [252], [253], [254], [255], [256], [257], [258], [259], [261], [262], [263], [264], [265], [267], [268], [271], [272], [273], [274], [275], [277], [279], [281], [284], [285], [286], [287], [288], [289], [291], [292], [293], [294], [295], [297], [298], [299], [301], [303], [304], [305], [306], [307], [308], [310], [312], [313], [314], [315], [316], [318], [320], [322], [323], [324], [327], [329], [331], [332], [333], [334], [335], [336], [337], [338], [339], [340], [341], [342], [343], [344], [345], [346] — ΣN=1410786

1) Introduction

Dual antiplatelet therapy (DAPT), typically comprising aspirin and a P2Y12 inhibitor, has been a cornerstone in preventing thrombotic events following percutaneous coronary intervention (PCI) and in acute coronary syndromes (ACS) or cerebrovascular events. However, the optimal duration and composition of antiplatelet regimens remain a subject of ongoing debate, particularly concerning the balance between ischemic protection and bleeding risk. Recent research has increasingly explored strategies involving shorter durations of DAPT followed by antiplatelet monotherapy, often with a P2Y12 inhibitor, or comparisons of different monotherapy agents. This evolving landscape necessitates a comprehensive synthesis of current evidence to inform clinical practice and future research.

2) Aim

This paper aims to systematically review and synthesize the available evidence comparing dual antiplatelet therapy (DAPT) with antiplatelet monotherapy across various cardiovascular and cerebrovascular clinical settings, focusing on efficacy and safety outcomes.

3) Methods

Systematic review with multilayer AI research agent: keyword normalization, retrieval & structuring, and paper synthesis (see SAIMSARA About section for details).

- **Bias:** Qualitatively inferred from study design fields. Randomized controlled trials (RCTs) provide the highest level of evidence, while cohort, cross-sectional, and mixed-design studies are subject to higher risks of confounding and selection bias. Many studies explicitly mentioned as "mixed" or "not specified" regarding study design or directionality introduce uncertainty regarding the robustness of their findings.

4) Results

4.1 Study characteristics

The review encompassed a broad range of study designs, predominantly prospective randomized controlled trials (RCTs), alongside cohort, cross-sectional, and mixed-design studies. Populations included adult hospitalizations with symptomatic large vessel occlusion (LVO), patients with acute coronary syndromes (ACS) or stable coronary artery disease (CAD) undergoing percutaneous coronary intervention (PCI) with various drug-eluting stents (DES), patients after coronary artery bypass grafting (CABG), and individuals with acute ischemic stroke (AIS) or transient ischemic attack

(TIA). Follow-up durations varied widely, ranging from 30 days to 9 years, with many studies reporting 1-year outcomes.

4.2 Main numerical result aligned to the query

Across studies directly comparing monotherapy (typically a P2Y12 inhibitor after short-term DAPT) versus prolonged DAPT, the median rate of major bleeding (including BARC type 3 or 5 bleeding) in the monotherapy group was 1.0% (range: 0.4%–3.6%) [12, 16, 21, 22, 23, 38, 83, 153, 154, 195, 270, 300]. In contrast, the median rate of major bleeding in the prolonged DAPT group was 3.2% (range: 1.2%–5.4%) [12, 16, 21, 22, 23, 38, 83, 153, 154, 195, 270, 300]. This indicates a consistent trend towards lower major bleeding rates with monotherapy after an initial short course of DAPT compared to prolonged DAPT.

4.3 Topic synthesis

- **P2Y12 Inhibitor Monotherapy for Bleeding Reduction:** P2Y12 inhibitor monotherapy, particularly after short-term (1-3 months) DAPT, consistently reduced major bleeding events compared to prolonged DAPT. Reported reductions in major bleeding (e.g., BARC type 3 or 5) ranged from 35% to 77% (RR 0.47-0.65) [12, 16, 21, 22, 23, 29, 31, 34, 38, 40, 42, 45, 48, 49, 51, 52, 57, 61, 63, 69, 73, 78, 80, 83, 85, 89, 93, 95, 98, 100, 103, 104, 107, 110, 112, 118, 119, 121, 127, 132, 134, 135, 136, 139, 142, 144, 153, 154, 158, 174, 178, 195, 199, 202, 212, 214, 218, 221, 236, 244, 245, 247, 250, 260, 266, 269, 270, 272, 276, 289, 290, 294, 296, 300, 302, 309, 311, 316, 317, 321, 322, 324, 333, 340, 345).
- **Ischemic Event Equivalence/Benefit with P2Y12 Monotherapy:** P2Y12 inhibitor monotherapy (after short DAPT) was generally non-inferior or comparable to prolonged DAPT regarding major adverse cardiac and cerebrovascular events (MACCE), myocardial infarction (MI), stent thrombosis (ST), and stroke [5, 9, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 29, 31, 34, 35, 37, 38, 39, 40, 42, 45, 46, 47, 48, 49, 52, 57, 61, 63, 64, 65, 66, 68, 69, 71, 72, 73, 74, 76, 78, 79, 80, 81, 83, 84, 85, 86, 88, 89, 92, 95, 98, 99, 100, 101, 103, 104, 107, 109, 110, 111, 112, 113, 116, 117, 118, 119, 120, 121, 122, 123, 125, 126, 127, 128, 129, 130, 132, 133, 134, 135, 136, 138, 139, 141, 142, 144, 145, 146, 148, 149, 150, 151, 153, 154, 155, 157, 158, 159, 161, 162, 165, 166, 172, 174, 178, 179, 186, 187, 195, 196, 199, 200, 202, 203, 205, 206, 207, 209, 211, 214, 217, 218, 219, 221, 222, 227, 228, 232, 234, 236, 237, 241, 242, 243, 244, 245, 247, 249, 250, 251, 255, 256, 257, 260, 261, 266, 267, 269, 270, 271, 272, 274, 275, 276, 278, 289, 290, 291, 292, 294, 296, 298, 302, 303, 307, 309, 312, 313, 314, 315, 319, 321, 322, 323, 331, 332, 333, 338, 341, 342, 343, 344, 345]. In some cases, P2Y12 monotherapy even reduced ischemic events, such as MACCE (RR 0.74, 95% CI 0.57-0.96) [2] or MI (HR 0.77, 95% CI 0.60-0.99) in complex PCI [79, 100].

- **Clopidogrel Monotherapy Superiority vs. Aspirin Monotherapy:** Clopidogrel monotherapy significantly reduced MACCE (HR 0.71, 95% CI 0.54-0.93) [10], MACE (HR 0.684, 95% CI 0.656-0.712) [43], MI, stroke, major bleeding, and repeated revascularization (RR 0.59-0.88) [50] compared to aspirin monotherapy in various post-PCI or high-risk recurrence settings. It also showed better endothelial function and lower platelet reactivity [106].
- **Ticagrelor Monotherapy Specific Benefits:** Ticagrelor monotherapy after short DAPT reduced all-cause mortality (RR 0.80, 95% CI 0.65-0.98) [110, 121, 127, 138] and NACE (RR 0.82, 95% CI 0.71-0.94) [110] compared to standard DAPT. It was particularly beneficial in elderly patients (risk reduction increased with age from 64 years) [113, 134], those with lower BMI (<27 kg/m2) [91], and in complex PCI [82, 112, 135, 146, 149, 150, 151].
- **DAPT for Stroke/TIA Prevention:** DAPT, particularly aspirin with clopidogrel, significantly reduced recurrent ischemic stroke (RR 0.71-0.77) and composite vascular events compared to monotherapy in acute minor ischemic stroke or TIA, especially when initiated early (within 72 hours) [36, 90, 108, 114, 115, 156, 160, 170, 171, 182, 184, 190, 194, 197, 213, 223, 230, 240, 248, 254, 258, 293, 326]. However, this benefit often came with an increased risk of major bleeding and hemorrhagic stroke (RR 1.74-2.19) [90, 115, 170, 182, 194, 230, 248].
- **DAPT for CABG Outcomes:** DAPT with clopidogrel plus aspirin or ticagrelor was associated with reduced risk of major adverse cardiovascular and cerebrovascular events (HR 0.65, 95% CI 0.55-0.77) [87], lower mortality (OR 0.52, 95% CrI 0.30-0.87) [235], and improved saphenous vein graft (SVG) patency (OR 1.56-2.53) [235, 337] compared to aspirin monotherapy after CABG. However, some studies reported higher major bleeding with DAPT [164] or no significant difference in graft occlusion [97, 201, 277].
- **Context-Specific DAPT Duration:** The optimal DAPT duration varies by clinical context. Shortened DAPT (1-3 months) followed by monotherapy is often favored post-PCI for ACS, complex PCI, or high bleeding risk (HBR) patients to reduce bleeding without compromising ischemic safety [7, 12, 16, 21, 23, 24, 29, 31, 38, 39, 45, 46, 55, 57, 66, 68, 69, 71, 79, 80, 81, 82, 84, 86, 92, 93, 95, 98, 100, 103, 104, 107, 110, 112, 117, 118, 119, 121, 122, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 138, 139, 141, 142, 144, 146, 149, 150, 151, 153, 154, 158, 161, 162, 165, 166, 172, 174, 178, 179, 186, 187, 195, 199, 200, 202, 203, 205, 206, 209, 211, 214, 217, 218, 219, 221, 222, 224, 227, 232, 234, 236, 241, 242, 243, 244, 245, 247, 249, 250, 251, 255, 256, 260, 262, 266, 267, 269, 270, 271, 272, 274, 275, 276, 289, 290, 291, 292, 294, 296, 297, 298, 299, 300, 302, 303, 307, 309, 310, 312, 314, 315, 318, 319, 320, 321, 322, 323, 331, 332, 333, 338, 341, 342, 343, 344, 345].
- **Patient-Specific Risk Factors and Subgroups:** Outcomes of DAPT vs. monotherapy are influenced by patient characteristics such as age [11, 113, 131, 134, 324], diabetes mellitus (DM) [6, 74, 85, 89, 111, 129, 133, 138, 140, 179, 303, 344], chronic kidney disease (CKD)

[63, 111, 178], high bleeding risk (HBR) [2, 13, 54, 55, 84, 88, 95, 99, 104, 124, 144, 157, 161, 162, 166, 183, 195, 217, 242, 260, 279, 331], complex PCI [66, 68, 79, 80, 82, 92, 100, 112, 135, 146, 149, 150, 183, 187, 341], and poly-vascular disease [18].

- **Aspirin vs. P2Y12 Inhibitor Monotherapy Post-DAPT:** After an initial DAPT phase, P2Y12 inhibitor monotherapy (clopidogrel or ticagrelor) was often superior to aspirin monotherapy in reducing ischemic events (e.g., MACE, MI, stroke) without increasing bleeding [3, 10, 13, 26, 28, 30, 37, 43, 50, 56, 58, 59, 67, 70, 77, 109, 125, 126, 152, 163, 166, 167, 169, 171, 183, 191, 192, 201, 210, 225, 237, 262, 268, 277, 278, 280, 281, 283, 284, 287, 311, 316, 317, 325, 328, 330, 335, 337]. However, for some outcomes like major bleeding, aspirin monotherapy was sometimes comparable or even favored [13, 26, 28, 168, 191, 282, 317].
- **Risk Scores and Personalized Therapy:** Tools like the PRECISE-DAPT score [33, 75, 217, 279] and DAPT score [99, 298] aid in identifying patients at high bleeding or ischemic risk, supporting individualized antiplatelet strategies [180, 200, 204, 205, 211, 219, 222, 231, 232, 298, 332, 339].
- **Early Ischemic Risk with Monotherapy:** Some studies indicated a potential excess of ischemic risk in the very early phase (first 30 days) with monotherapy compared to DAPT, which normalized thereafter [19, 157, 159, 161].
- **Platelet Reactivity and Endothelial Function:** Clopidogrel monotherapy was associated with better endothelial function and lower platelet reactivity compared to aspirin monotherapy [106]. DAPT generally showed more potent platelet inhibition than monotherapy [96, 246, 252, 253, 329, 338], though sometimes with only modest additional inhibition [253, 329].
- **Non-Coronary Applications:** DAPT has also been evaluated in settings like carotid artery stenting (CAS) [156, 197, 220], peripheral artery disease (PAD) [212, 311, 323], intracranial aneurysms [27, 224, 273, 295, 297, 299, 314], and left atrial appendage occlusion (LAAO) [168, 305, 306, 317]. In LVO, DAPT showed lower mortality and morbidity compared to aspirin monotherapy [1].

5) Discussion

5.1 Principal finding

The central finding of this review indicates that antiplatelet monotherapy, particularly with a P2Y12 inhibitor following a short course of DAPT, is associated with a significantly lower rate of major bleeding (median 1.0%, range 0.4%-3.6%) compared to prolonged DAPT (median 3.2%, range 1.2%-5.4%) [12, 16, 21, 22, 23, 38, 83, 153, 154, 195, 270, 300]. This reduction in bleeding risk generally occurs without a significant increase in ischemic events.

5.2 Clinical implications

- **Reduced Bleeding Risk:** For patients post-PCI, especially those with high bleeding risk (HBR) or after complex PCI, transitioning to P2Y12 inhibitor monotherapy after 1-3 months of DAPT can substantially reduce major bleeding events without compromising ischemic protection [9, 12, 16, 21, 23, 24, 29, 31, 38, 42, 45, 57, 61, 63, 69, 73, 78, 80, 83, 85, 93, 104, 110, 112, 118, 119, 121, 134, 135, 139, 142, 153, 154, 195, 199, 202, 236, 244, 245, 247, 250, 260, 266, 269, 270, 272, 276, 289, 290, 294, 296, 300, 302, 309, 321, 322, 333, 345].
- **Tailored Antiplatelet Strategy:** The choice between DAPT and monotherapy, and the duration of DAPT, should be individualized based on a patient's ischemic and bleeding risk profiles, as assessed by clinical factors (e.g., ACS, DM, CKD, age, complex PCI) and risk scores (e.g., PRECISE-DAPT, DAPT score) [2, 6, 11, 13, 15, 18, 20, 26, 28, 30, 33, 37, 43, 50, 54, 55, 56, 58, 59, 64, 65, 66, 68, 70, 72, 74, 75, 76, 77, 79, 81, 82, 84, 86, 88, 89, 91, 92, 95, 99, 100, 101, 102, 103, 106, 107, 108, 109, 111, 113, 114, 115, 116, 117, 120, 122, 123, 125, 126, 128, 129, 130, 131, 132, 133, 134, 136, 138, 140, 141, 144, 145, 146, 148, 149, 150, 151, 152, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 196, 197, 198, 200, 201, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 237, 238, 239, 240, 241, 242, 243, 246, 248, 249, 251, 252, 253, 254, 255, 256, 257, 258, 259, 261, 262, 263, 264, 265, 267, 268, 271, 273, 274, 275, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 290, 292, 293, 295, 297, 298, 299, 301, 303, 304, 305, 306, 307, 308, 310, 311, 312, 313, 314, 315, 316, 317, 318, 320, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 346].
- **Stroke Prevention in Acute Phase:** For acute minor ischemic stroke or TIA, early DAPT (aspirin + P2Y12 inhibitor) is more effective than aspirin monotherapy in reducing stroke recurrence and improving functional outcomes, despite an increased risk of bleeding [36, 90, 108, 114, 115, 160, 170, 171, 182, 190, 194, 197, 213, 223, 230, 248, 254, 293, 326].

5.3 Research implications / key gaps

- **Long-Term Comparative Effectiveness:** Conduct RCTs comparing long-term P2Y12 inhibitor monotherapy (e.g., ticagrelor, clopidogrel) versus aspirin monotherapy after short-term DAPT in diverse patient populations to establish definitive long-term efficacy and safety profiles [3, 10, 13, 26, 28, 30, 37, 43, 50, 56, 58, 59, 67, 70, 77, 109, 125, 126, 152, 163, 166, 167, 169, 171, 183, 191, 192, 201, 210, 225, 237, 262, 268, 277, 278, 280, 281, 283,

284, 287, 311, 316, 317, 325, 328, 330, 335, 337].

- **Optimal DAPT Duration for Specific Stents:** Investigate optimal DAPT durations (e.g., 1-month vs. 3-month) followed by monotherapy for newer-generation DES, including polymer-free or biodegradable polymer stents, across various clinical presentations [4, 7, 25, 46, 107, 126, 141, 256, 271].
- **Impact of Comorbidities on Monotherapy:** Further research is needed to understand the precise impact of specific comorbidities (e.g., diabetes mellitus, chronic kidney disease, poly-vascular disease, obesity, hypertension, atrial fibrillation) on the risk-benefit balance of monotherapy versus DAPT [6, 11, 15, 18, 63, 65, 74, 85, 88, 89, 91, 99, 111, 113, 120, 129, 131, 133, 134, 138, 140, 151, 178, 179, 207, 209, 212, 216, 217, 218, 228, 238, 240, 250, 255, 263, 265, 278, 281, 288, 303, 311, 313, 315, 333, 334, 336, 342, 343, 344].
- **Role of Pharmacogenomics and Platelet Reactivity:** Explore how pharmacogenomic variations and real-time platelet reactivity monitoring can guide individualized antiplatelet therapy, including the selection and duration of monotherapy agents, to optimize outcomes and minimize adverse events [96, 106, 116, 147, 148, 207, 211, 215, 217, 246, 252, 253, 281, 329, 338].
- **Monotherapy in Cerebrovascular Interventions:** Conduct more robust studies (e.g., RCTs) on optimal antiplatelet strategies, including monotherapy durations, following intracranial stenting or flow diversion for aneurysms, balancing thrombotic and hemorrhagic risks [27, 224, 273, 295, 297, 299, 314].

5.4 Limitations

- **Heterogeneous Study Designs** — The included studies varied in design (RCTs, cohorts, cross-sectional), introducing variability in evidence quality and potential for bias.
- **Varied Follow-up Durations** — Follow-up periods ranged significantly, making direct comparisons of long-term outcomes challenging across all studies.
- **Inconsistent Outcome Reporting** — Definitions and reporting of endpoints (e.g., major bleeding, MACCE) were not always standardized, limiting comprehensive quantitative synthesis.
- **Population Specificity** — Many findings are specific to certain patient populations (e.g., ACS, PCI, stroke), limiting generalizability to broader cardiovascular or cerebrovascular contexts.
- **Lack of Direct Comparisons** — Not all relevant monotherapy agents (e.g., specific P2Y12 inhibitors) were directly compared against all DAPT durations or other monotherapy agents in every clinical scenario.

5.5 Future directions

- **Standardize Outcome Definitions** — Implement consistent definitions for ischemic and bleeding events in future trials to facilitate meta-analyses.
- **Long-Term Registry Studies** — Establish large, prospective registries to track real-world outcomes of various antiplatelet strategies over extended periods.
- **Personalized Therapy Trials** — Design adaptive trials that use risk stratification tools and pharmacogenomic data to assign individualized antiplatelet regimens.
- **Comparative Effectiveness Research** — Conduct head-to-head RCTs comparing different P2Y12 inhibitor monotherapies (e.g., ticagrelor vs. clopidogrel) after short DAPT.
- **Investigate Early Ischemic Risk** — Focus research on mitigating the potential early ischemic risk observed with immediate monotherapy post-intervention.

6) Conclusion

The extensive body of evidence reviewed highlights a significant shift towards antiplatelet monotherapy, particularly with P2Y12 inhibitors, after a short duration of dual antiplatelet therapy (DAPT). This strategy consistently demonstrates a substantial reduction in major bleeding events, with the median major bleeding rate in monotherapy groups being 1.0% (range: 0.4%–3.6%) compared to 3.2% (range: 1.2%–5.4%) in prolonged DAPT groups. Crucially, this safety benefit is generally achieved without an increase in ischemic events, and in some contexts, P2Y12 inhibitor monotherapy, especially ticagrelor or clopidogrel, has shown superiority over aspirin monotherapy in preventing ischemic events. While the evidence strongly supports tailored antiplatelet strategies based on individual patient risk profiles, the heterogeneity in study designs remains a limitation. Future research should prioritize large-scale, long-term comparative effectiveness trials to further refine optimal antiplatelet regimens for diverse patient populations.

References

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Figure 1. Publication-year distribution of included originals

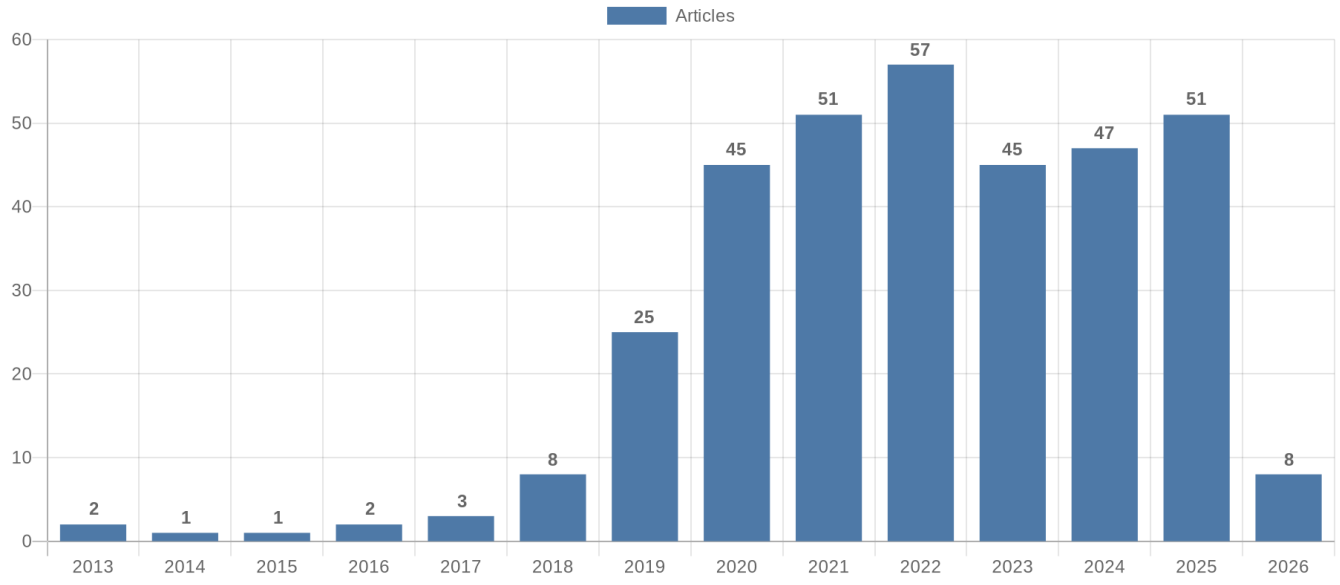

Figure 2. Study-design distribution of included originals

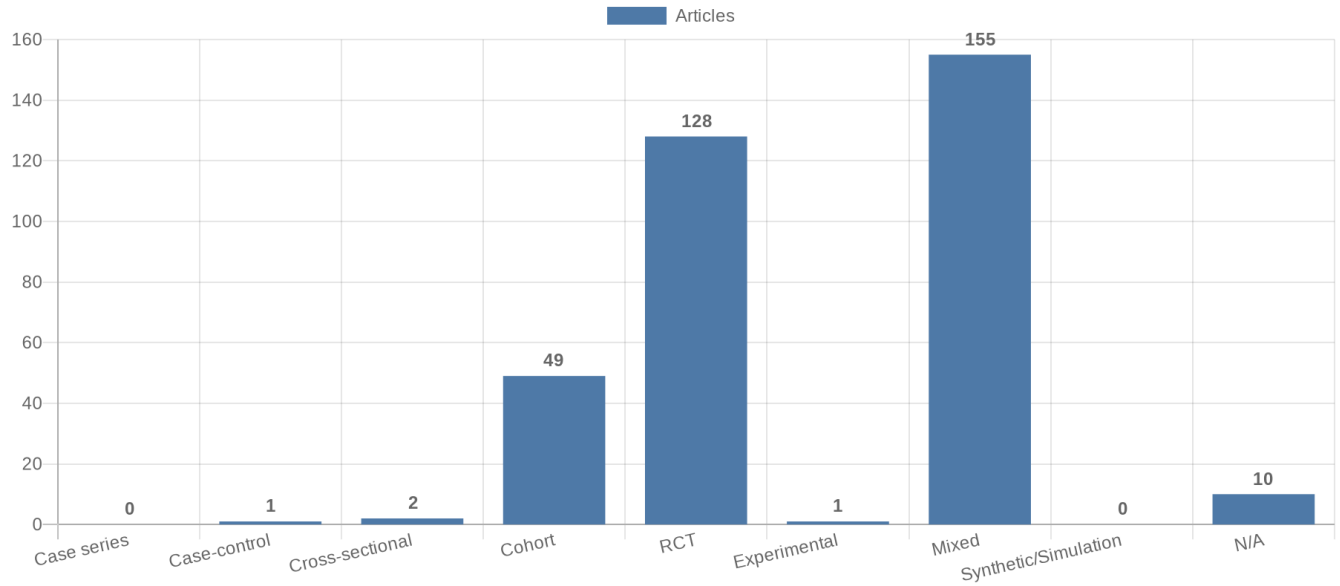

Figure 3. Study-type (directionality) distribution of included originals

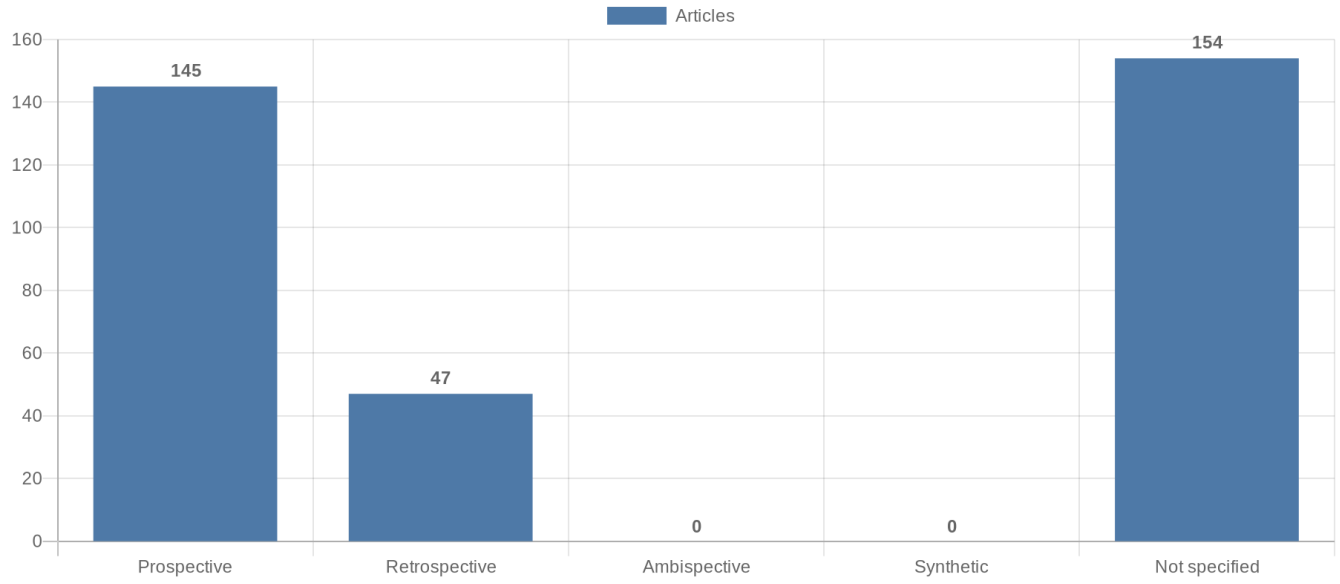

Figure 4. Main extracted research topics

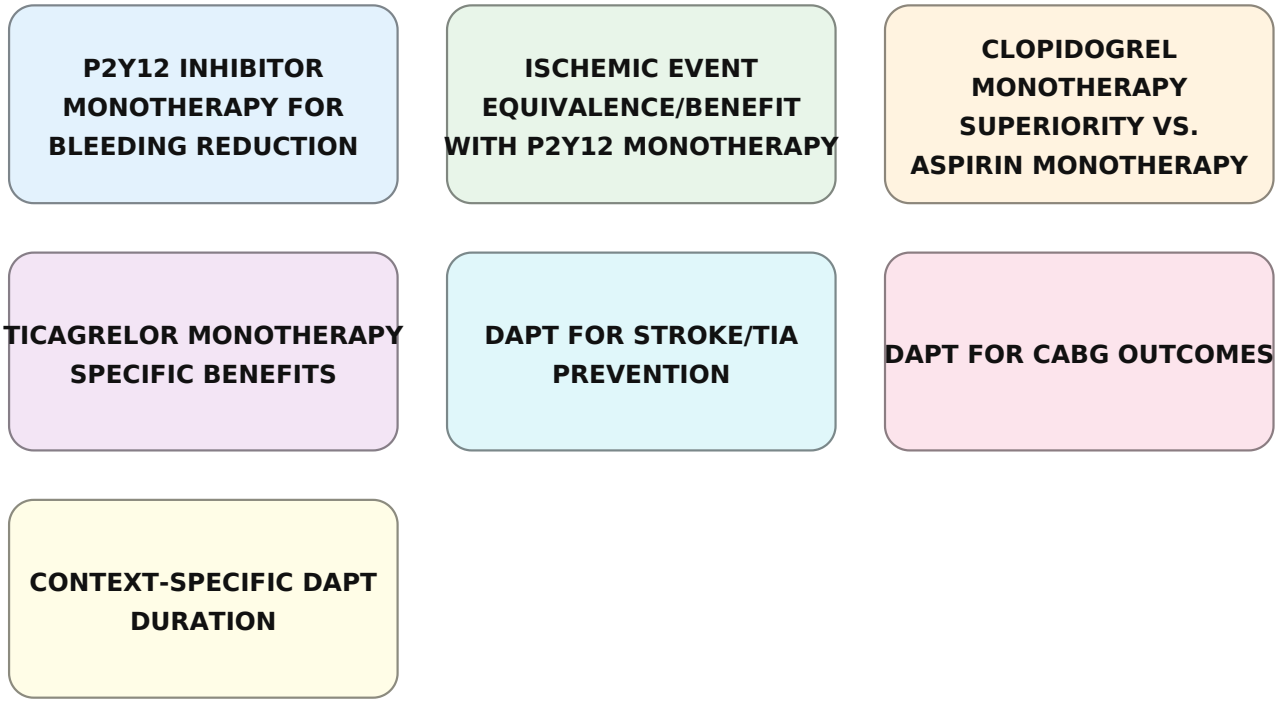

Figure 5. Limitations of current studies (topics)

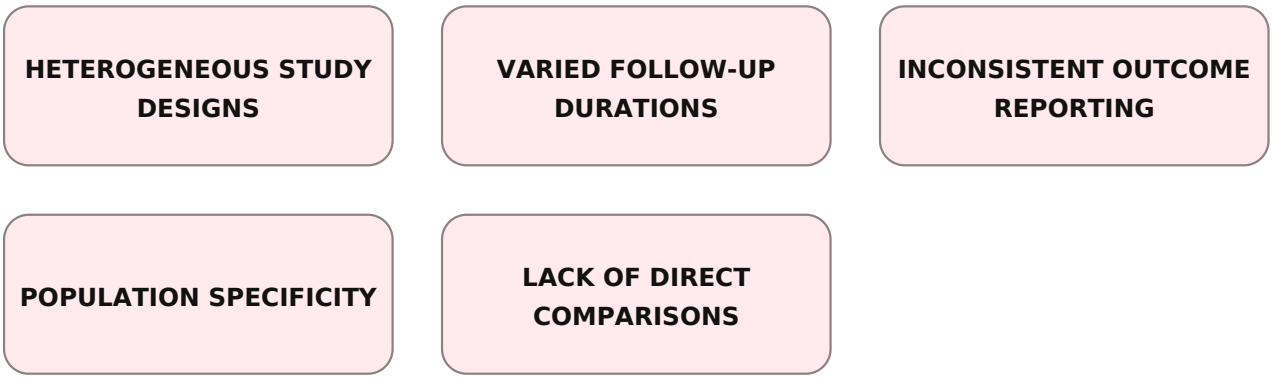

Figure 6. Future research directions (topics)