Antoni A, 2019	**Country**	Austria
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	NA
	Primary outcome	Incidence of delayed ICH
	Inclusion criteria	Patients ≥18 years old; blunt head trauma; ongoing antithrombotic therapy; no pathologies in their initial CT
	Exclusion criteria	NA
	Recruitment time	January 2012 - April 2014
	Patients enrolled	793
	Mean Age, years	81(range 32–102)
	Male (%)	340 (42.9)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	Minimum observation time of 24 h
	Patients enrolled in our meta-analysis	108
	Reference standard for DB	RHCT after at least 24 h
	Aspirin	0
	Clopidogrel	86
	Other antiplatelet	0
	Dual antiplatelet	22
Battle B, 2017	**Country**	USA
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	NA
	Primary outcome	Utility of 6-hour repeat head CT among elderly trauma patients across a broad spectrum of anticoagulation therapies with negative initial imaging
	Inclusion criteria	Patients > 65 years old; head trauma; anticoagulant or antiplatelet therapy; initially negative non-contrast head CT followed by a repeat examination at 6 hours.
	Exclusion criteria	Hemorrhage on the initial head CT; follow-up scans that exceeded the 6-hour mark by more than 2 hours; unknown type of anticoagulant/antiplatelet therapy.
	Recruitment time	July 2015 - April 2016
	Patients enrolled	110
	Mean Age, years (mean±SD, or median (IQR))	>65 years (not specified)
	Male (%)	NA
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	6 hours
	Patients enrolled in our meta-analysis	44
	Reference standard for DB	6h RHCT
	Aspirin	12
	Clopidogrel	29
	Other antiplatelet	3
	Dual antiplatelet	0
Chenoweth J, 2018	**Country**	USA
	Single/multicenter	Multicentric
	Study design	Prospective observational cohort study
	Mild TBI definition	Isolated head injury was defined as an Abbreviated Injury Scale score less than 3 in all non-head body regions

	Primary outcome	Incidence of delayed traumatic ICH on cranial CT within 14 days of the index ED visit in the study without the patient having experienced an additional head injury
	Inclusion criteria	Patients ≥ 55 years old; head trauma transported to a participating hospital by EMS
	Exclusion criteria	Penetrating head trauma; patients with interfacility transfers; ICH on the initial cranial CT; no cranial CT at their index ED visit; declined consent for a follow-up telephone call; patients who were without reliable means for such a call; incarcerated people
	Recruitment time	August 2015 – September 2016
	Patients enrolled	859
	Mean Age, years (median (IQR))	75 (64-85)
	Male (%)	389 (45.3)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	NA
	Patients enrolled in our meta-analysis	190
	Reference standard for DB	Telephone FU 14 days after discharge and EMR review
	Aspirin	152
	Clopidogrel	NA
	Other antiplatelet	38
	Dual antiplatelet	0
Ernstbrunner L, 2016	**Country**	Austria
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	GCS of 14–15
	Primary outcome	To analyze whether secondary ICH after mild head injury in patients ≥ 60 years old with LDA prophylaxis at the time of admission can reliably be predicted by the serum level of S100B
	Inclusion criteria	≥ 60 years of age; daily LDA prophylaxis (50–100 mg); isolated mild head injury with a GCS of 14–15; negative head CT scan within 3 hours; no hypertensive irregularities during the in-hospital observation period (systolic blood pressure <150mm Hg)
	Exclusion criteria	Patients taking anticoagulants such as heparin, warfarin, coumarin, clopidogrel or nonsteroidal anti-inflammatory drugs; hematological or oncological diseases; moderate or severe head injuries
	Recruitment time	November 2008 - May 2012
	Patients enrolled	384
	Mean Age, years (mean ± SD)	81.8±8.9
	Male (%)	157 (41)
	Time from trauma to ED presentation	< 3 hours
	Time from first to second CT scan	Within 48 hours 21.1 (±6.8) hours in patients with no ICH 21.5 (±3.7) hours in patients with ICH
	Patients enrolled in our meta-analysis	382
	Reference standard for DB	RHCT within 48 h
	Aspirin	382
	Clopidogrel	0
	Other antiplatelet	0
	Dual antiplatelet	0

Galliazzo S, 2019	**Country**	Italy
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	GCS 13-15
	Primary outcome	ICH after mild traumatic brain injury with a GCS ≥13 in patients treated with different antithrombotic therapy
	Inclusion criteria	Patients > 18 years old; traumatic brain injury; GCS 13 to 15
	Exclusion criteria	Any regimen of low molecular weight heparin
	Recruitment time	January 2015 – September 2017
	Patients enrolled	1846
	Mean Age, years (median (IQR))	71 (46–83)
	Male (%)	926 (50)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	Between 6 hours and 24 hours
	Patients enrolled in our meta-analysis	131
	Reference standard for DB	24h RHCT
	Aspirin	NA
	Clopidogrel	NA
	Other antiplatelet	NA
	Dual antiplatelet	NA
Ganetsky M, 2017	**Country**	USA
	Single/multicenter	Single center
	Study design	Prospective observational cohort study
	Mild TBI definition	NA
	Primary outcome	Rates of ICH in ED patients on anticoagulants or antiplatelet agents who sustain a ground-level fall
	Inclusion criteria	Consecutive adult patients (>18 years of age); ground-level fall or lesser mechanism of injury; CT head performed; on aspirin, clopidogrel, prasugrel, ticagrelor, warfarin, dabigatran, rivaroxaban, or enoxaparin
	Exclusion criteria	Therapy with edoxaban (not received FDA approval at the initiation of this study); patients transferred from an outside hospital with identified injuries or an injury that occurred > 24 hours prior to presentation
	Recruitment time	June 2013 - November 2015
	Patients enrolled	939
	Mean Age, years (mean ± SD)	78.3 ±11.9
	Male (%)	419 (44.6)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	NA
	Patients enrolled in our meta-analysis	637
	Reference standard for DB	30 days informatic FU
	Aspirin	564
	Clopidogrel	21
	Other antiplatelet	0
	Dual antiplatelet	52
Hill JH, 2018	**Country**	USA
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	NA

	Primary outcome	Incidence of delayed ICH on follow-up CT exam
	Inclusion criteria	Patients who had blunt head trauma; on an anticoagulant/antiplatelet therapy; initial head CT negative for ICH; follow-up head CT completed within 48 hours of the initial CT
	Exclusion criteria	Patients not on anticoagulant or anti-platelets therapy; penetrating injury; initial head CT positive for ICH; no follow-up exam within 48 hours after the initial CT
	Recruitment time	January 2008 - December 2012
	Patients enrolled	338
	Mean Age, years (mean±SD)	69.3±14.47
	Male (%)	195 (57.7)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	Within 48 hours
	Patients enrolled in our meta-analysis	213
	Reference standard for DB	RHCT within 48 h
	Aspirin	103
	Clopidogrel	46
	Other antiplatelet	NA
	Dual antiplatelet	64
Huang G, 2019	**Country**	USA
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	A documented statement that the patient hit his/her head; any craniofacial soft tissue injury, cephalohematoma, craniofacial fracture, or cognitive alteration
	Primary outcome	Incidence of delayed traumatic ICH in patients with blunt trauma to the head taking pre-injury antithrombotic agents
	Inclusion criteria	Patients ≥18 years old; sustained blunt head trauma; taking any antithrombotic agent; initially negative head CT
	Exclusion criteria	Patients < 18 years old; initially positive head CT; not taking an antithrombotic agent
	Recruitment time	July 2014 - December 2015
	Patients enrolled	349
	Mean Age, years	74.7
	Male (%)	159 (46)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	within 4-6 h
	Patients enrolled in our meta-analysis	119
	Reference standard for DB	4-6h RHCT
	Aspirin	99
	Clopidogrel	20
	Other antiplatelet	0
	Dual antiplatelet	NA
Mann N, 2018	**Country**	USA
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	Minor fall as defined by the National Trauma Data Standard as a fall from less than 10 ft

	Primary outcome	Frequency of delayed ICH in an elderly cohort presenting following a minor fall while taking pre-injury anticoagulant or antiplatelet therapy
	Inclusion criteria	Patients ≥65 years old; admission to the trauma service, sustaining a minor fall as defined by the National Trauma Data Standard as a fall from less than 10 ft; having a documented head CT scan in the trauma registry; taking an anticoagulant or antiplatelet therapy; an initial and routine repeat head CT performed prior to discharge
	Exclusion criteria	NA
	Recruitment time	January 2014 - December 2015
	Patients enrolled	218
	Mean Age, years (mean±SD)	81.6±7.65
	Male (%)	91 (41.74)
	Time from trauma to ED presentation	Within 6 hours
	Time from first to second CT scan	NA
	Patients enrolled in our meta-analysis	114
	Reference standard for DB	RHCT before discharge
	Aspirin	81
	Clopidogrel	15
	Other antiplatelet	1
	Dual antiplatelet	17
Nishijima D, 2012	**Country**	USA
	Single/multicenter	Multicentric
	Study design	Prospective observational study
	Mild TBI definition	Any blunt head injury regardless of loss of consciousness or amnesia
	Primary outcome	Prevalence and incidence of immediate and delayed traumatic ICH in patients with blunt head trauma who were receiving either warfarin or clopidogrel
	Inclusion criteria	Adult (aged ≥18 years) ED patients; blunt head trauma; preinjury warfarin or clopidogrel use (within the previous 7 days)
	Exclusion criteria	patients with known injuries who were transferred from outside facilities because their inclusion would falsely inflate the prevalence of traumatic ICH; patients with concomitant warfarin and clopidogrel use
	Recruitment time	April 2009 - January 2011
	Patients enrolled	1064
	Mean Age, years (mean±SD)	75.4±12.7
	Male (%)	502 (47.1)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	NA
	Patients enrolled in our meta-analysis	239
	Reference standard for DB	telephone FU 14 days after discharge and EMR review
	Aspirin	0
	Clopidogrel	ND
	Other antiplatelet	0
	Dual antiplatelet	ND
Peck KA, 2011	**Country**	USA
	Single/multicenter	Single center
	Study design	Retrospective

	Mild TBI definition	NA
	Primary outcome	Incidence of delayed ICH
	Inclusion criteria	Age ≥15 years; blunt mechanism of injury; preinjury use of an anticoagulant or antiplatelet agent (warfarin, clopidogrel, heparin, enoxaparin, or dipyridamole and aspirin in combination. Patients with a concurrent history of aspirin use were not excluded, but aspirin use alone was not sufficient for inclusion in the study
	Exclusion criteria	Warfarin as the sole inclusion agent used and the admission international normalized ratio was within normal range (< 1.3)
	Recruitment time	January 2006 – August 2009
	Patients enrolled	500
	Mean Age, years (mean±SD)	75.0 ± 13.6
	Male (%)	210 (49.5)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	8.8 ± 10.2 hours
	Patients enrolled in our meta-analysis	103
	Reference standard for DB	EMR review and informatic FU
	Aspirin	0
	Clopidogrel	NA
	Other antiplatelet	0
	Dual antiplatelet	NA
Scantling D, 2017	**Country**	USA
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	Isolated head injury with a GCS>13
	Primary outcome	Incidence of delayed ICH
	Inclusion criteria	Patients >65 years old; GCS of 14 or 15; on antithrombotic therapy; admitted to level one trauma center; received both an initial and a delayed CT of the head (12 h after admission without prompting by a change in clinical status)
	Exclusion criteria	Patients found to have findings of an intracranial injury on the initial CT
	Recruitment time	2010 – 2012
	Patients enrolled	234
	Mean Age, years	80.9
	Male (%)	102 (43.5)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	14 hours
	Patients enrolled in our meta-analysis	165
	Reference standard for DB	12 h RHCT
	Aspirin	131
	Clopidogrel	12
	Other antiplatelet	0
	Dual antiplatelet	22
Stanitsas L, 2016*	**Country**	NA
	Single/multicenter	Single center
	Study design	Retrospective
	Mild TBI definition	NA
	Primary outcome	Incidence of delayed ICH

	Inclusion criteria	Patients with blunt mechanism of injury; taking antithrombotic agents; with evidence of cranial/facial injury; with a negative initial head CT
	Exclusion criteria	Patients <18 years old; patients with penetrating head trauma
	Recruitment time	January 2014 – December 2014
	Patients enrolled	71
	Mean Age, years	77.4
	Male (%)	NA
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	NA
	Patients enrolled in our meta-analysis	40
	Reference standard for DB	RHCT
	Aspirin	30
	Clopidogrel	10
	Other antiplatelet	0
	Dual antiplatelet	ND
Swap C, 2016	**Country**	USA
	Single/multicenter	Multicentric
	Study design	Retrospective
	Mild TBI definition	NA
	Primary outcome	Incidence of delayed ICH (within 60 days) in patients receiving warfarin or clopidogrel
	Inclusion criteria	ED encounters for trauma receipt of a head CT scan; currently prescribed warfarin (and had an international normalized ratio above 1.2 on the day of the ED visit) or clopidogrel
	Exclusion criteria	NA
	Recruitment time	2007-2011
	Patients enrolled	491
	Mean Age, years (mean±SD)	76.6±11.9
	Male (%)	258 (52.5)
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	4.7 days
	Patients enrolled in our meta-analysis	260
	Reference standard for DB	60 days FU from medical records
	Aspirin	0
	Clopidogrel	260
	Other antiplatelet	0
	Dual antiplatelet	0
Tauber M, 2009	**Country**	Austria
	Single/multicenter	Single center
	Study design	Prospective
	Mild TBI definition	Isolated mild head injury with a GCS score of 15
	Primary outcome	Incidence of delayed ICH
	Inclusion criteria	Patients ≥65 years old; regular low-dose therapy (100 mg/d) with aspirin (independent from the indication); isolated mild head injury with a GCS score of 15; primary negative head CT; no hypertensive irregularities (systolic blood pressure < 150 mm Hg)
	Exclusion criteria	Patients who received other anticoagulant medications as

		warfarin, coumarin, clopidogrel, or nonsteroidal anti-inflammatory drugs; patients with hematological or oncological diseases; moderate or severe head injuries
	Recruitment time	July 2007 - November 2008
	Patients enrolled	100
	Mean Age, years (mean±SD)	81±10
	Male (%)	39 (39)
	Time from trauma to ED presentation	3 hours in 91 patients between 3 hours and 16 hours (average 6.4± 3.9) in 9 patients
	Time from first to second CT scan	19 hours ± 9 hours with a minimum 12 hours
	Patients enrolled in our meta-analysis	100
	Reference standard for DB	12-24h RHCT
	Aspirin	100
	Clopidogrel	0
	Other antiplatelet	0
	Dual antiplatelet	0
Taylor K, 2012*	**Country**	Australia
	Single/multicenter	Multicentric
	Study design	Retrospective
	Mild TBI definition	NA
	Primary outcome	To evaluate the benefit of serial CT scans to screen for delayed ICH in patients on anticoagulant/antiplatelet therapy presenting with head injuries
	Inclusion criteria	Patients with head trauma; on anticoagulant/antiplatelet therapy; receiving a second CT within 48 h of a negative initial CT
	Exclusion criteria	NA
	Recruitment time	July 2010 - February 2012
	Patients enrolled	159
	Mean Age, years	NA
	Male (%)	NA
	Time from trauma to ED presentation	NA
	Time from first to second CT scan	Within 48 hours
	Patients enrolled in our meta-analysis	85
	Reference standard for DB	RHCT within 48 h
	Aspirin	52
	Clopidogrel	26
	Other antiplatelet	7
	Dual antiplatelet	NA

*Table A. Study characteristics. LEGEND: NA=not available; CT= computed tomography; ED= Emergency Department; GCS= Glasgow Coma Scale; LDA= low dose acetylsalicylic acid; ICH= intracranial hemorrhage; EMS = Emergency Medical Services; SD=standard deviation; IQR=interquartile range; RHCT=repeated head ct scan; FU= follow-up; *Only abstract available.*

Table B: Subgroup analysis results for the primary outcome considering different antiplatelet agents.

Study	All	ASA	Clopidogrel	DAPT
ANTONI_2019	1.85% (0.23-6.53%)	NA	0.00% (0.00-4.2%)	9.09% (1.12-29.16%)
BATTLE_2017	2.27% (0.06-12.02%)	0.00% (0.00-26.46%)	3.45% (0.09-17.76%)	NA
CHENOWETH_2018	0.0% (0.00-1.92%)	0.00% (0.00-2.4%)	NA	NA
ERNSTBRUNNER_2016	1.05% (0.29-2.66%)	1.05% (0.29-2.66%)	NA	NA
GALLIAZZO_2019	1.53% (0.19-5.41%)	NA	NA	NA
GANETSKY_2017	0.16% (0.00-0.87%)	0.18% (0.00-0.98%)	0.00% (0.00-16.11%)	0.00% (0.00-7.11%)
HILL_2018	3.29% (1.33-6.65%)	2.91% (0.60-8.28%)	0.00% (0.00-7.71%)	6.25% (1.73-15.24%)
HUANG_2019	2.52% (0.52-7.19%)	0.00% (0.00-3.66%)	15% (3.21-37.89%)	NA
MANN_2018	0.00% (0.00-3.18%)	0.00% (0.00-4.45%)	0.00% (0.00-21.8%)	0.00% (0.00-19.51%)
NISHIJIMA_2012	0.00% (0.00-1.53%)	NA	NA	NA
PECK_2011	0.00% (0.00-3.52%)	NA	NA	NA
SCANTLING_2017	1.2% (0.15-4.31%)	0.76% (0.02-4.18%)	0.00% (0.00-26.46%)	4.55% (0.12-22.84%)
STANITSAS_2016	0.00% (0.00-8.81%)	0.00% (0.00-11.57%)	0.00% (0.00-30.85%)	NA
SWAP_2016	2.31% (0.85-4.95%)	NA	NA	NA
TAUBER_2009	4.00% (1.1-9.93%)	4.00% (1.10-9.93%)	NA	NA
TAYLOR_2012	0.00% (0.00-4.25%)	0.00% (0.00-6.85%)	0.00% (0.00-13.23%)	NA
N° studies	**16**	**11**	**9**	**5**
DB mean estimated risk	**0.77% (0.23-1.52%)**	**0.22% (0.00-0.89%)**	**0.22% (0.00-2.32%)**	**2.64% (0.03-7.65%)**
p value for heterogeneity	**p=0.0007**	**p=0.0873**	**p=0.02224**	**p=0.1430**
I^2 statistic	**61%**	**39%**	**25%**	**42%**

Table B legend: results are represented as mean estimates and 95% confidence interval (in brackets). DB = delayed bleeding; all= all patients included in the analysis; ASA=acetylsalicylic acid subgroup; clopidogrel= clopidogrel subgroup, DAPT=dual antiplatelet agent subgroup; NA not assessed.