

Cardiovascular Toxicity of Tyrosine Kinase Inhibitors Used in Chronic Myeloid Leukemia: An Analysis of FDA Adverse Event Reporting System Database (FAERS)

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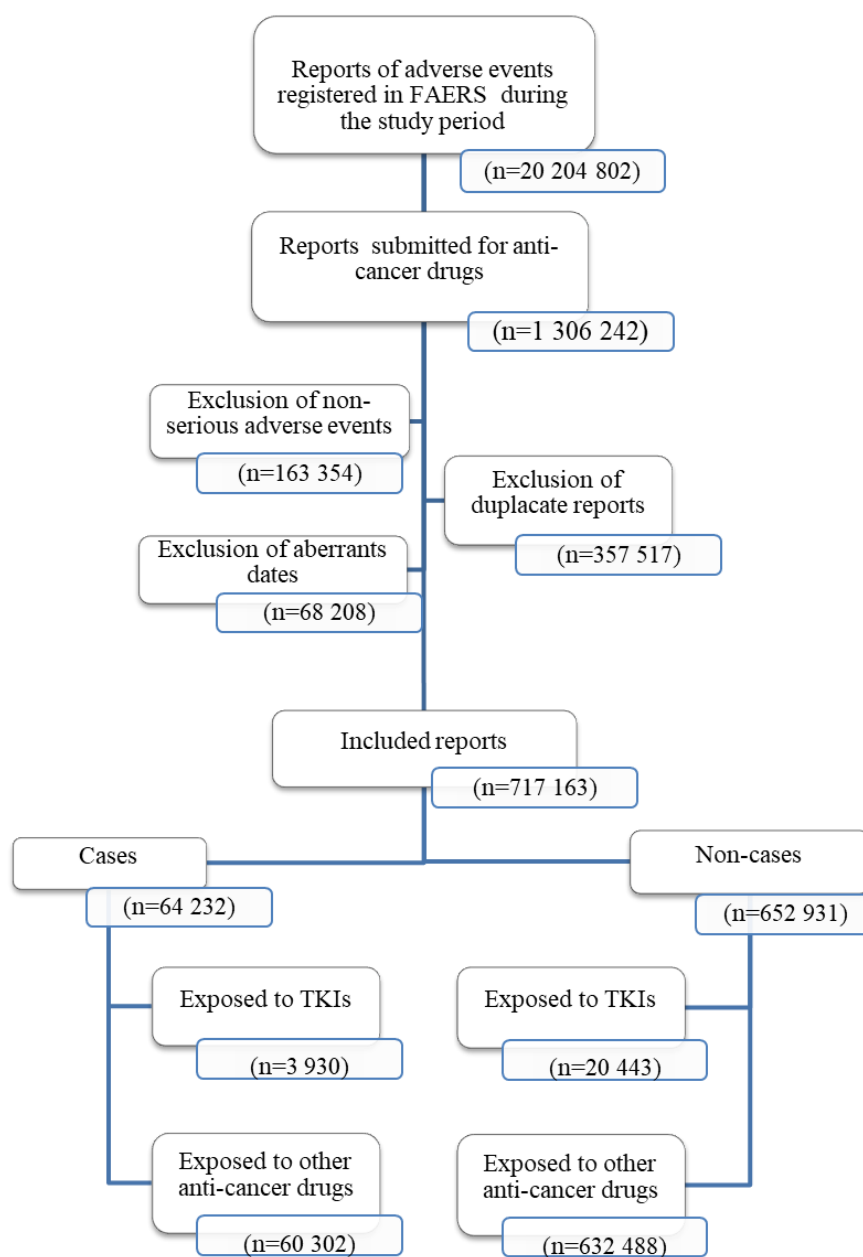


Figure S1. Flow chart of the study population.

Table S1. Disproportionality analysis of cardiac arrhythmias submitted for TKIs compared to other anti-cancer drugs.

Cardiac Arrhythmias				
Drugs	Cases	Non-Cases	Crude ROR (95% CI)	aROR * (95% CI)
All TKIs	142	52,483	1.7 (1.4–2.0)	1.7 (1.4–2.1)
Bosutinib	3	507	3.6 (1.1–11.6)	1.6 (0.2–11.7)
Dasatinib	23	14,351	1 (0.6–1.5)	1 (0.6–1.6)
Imatinib	5	5728	0.5 (0.2–1.3)	0.3 (0.1–1.4)
Nilotinib	99	24,345	2.5 (2.1–3.1)	2.7 (2.1–3.5)
Ponatinib	12	7552	1.0 (0.5–1.7)	1.0 (0.5–2.2)
Other anti-cancer drugs	2437	1,512,555	1 [Reference]	1 [Reference]

* adjusted for age and sex.

Table S2. Disproportionality analysis of cardiac failure submitted for TKIs compared to other anti-cancer drugs.

Cardiac Failure				
Drugs	Cases	Non-cases	Crude ROR (95% CI)	aROR * (95% CI)
All TKIs	744	51,881	2 (1.9–2.2)	2.4 (2.2–2.6)
Bosutinib	12	498	3.3 (1.9–5.9)	3.5 (1.9–6.6)
Dasatinib	363	14,011	3.6 (3.3–4.0)	4.1 (3.7–4.6)
Imatinib	51	5682	1.2 (0.9–1.6)	1.1 (0.8–1.6)
Nilotinib	242	24,202	1.4 (1.2–1.6)	1.5 (1.3–1.7)
Ponatinib	76	7488	1.4 (1.1–1.8)	1.8 (1.4–2.4)
Other anti-cancer drugs	10,545	1,504,447	1 [Reference]	1 [Reference]

* adjusted for age and sex.

Table S3. Disproportionality analysis of cardiomyopathy submitted for TKIs compared to other anti-cancer drugs.

Cardiomyopathy				
Drugs	Cases	Non-cases	Crude ROR (95% CI)	aROR * (95% CI)
All TKIs	105	52,520	0.5 (0.4–0.7)	0.5 (0.4–0.7)
Bosutinib	0	510	n/a	n/a
Dasatinib	25	14,349	0.5 (0.3–0.7)	0.4 (0.3–0.7)
Imatinib	21	5712	1.0 (0.7–1.6)	1.2 (0.7–2.0)
Nilotinib	41	24,403	0.5 (0.3–0.6)	0.4 (0.2–0.6)
Ponatinib	18	7546	0.7 (0.4–1.1)	0.6 (0.3–1.2)
Other anti-cancer drugs	5455	1,509,537	1 [Reference]	1 [Reference]

* adjusted for age and sex.

Table S4. Disproportionality analysis of embolic and thrombotic events submitted for TKIs compared to other anti-cancer drugs.

Embolic and thrombotic events				
Drugs	Cases	Non-cases	Crude ROR (95% CI)	aROR * (95% CI)
All TKIs	1294	51,331	0.9 (0.9–1.0)	0.9 (0.9–1.0)
Bosutinib	11	499	0.8 (0.4–1.5)	1 (0.5–1.9)
Dasatinib	194	14,180	0.5 (0.4–0.6)	0.5 (0.4–0.6)
Imatinib	66	5,667	0.4 (0.3–0.5)	0.4 (0.3–0.5)
Nilotinib	755	23,689	1.2 (1.1–1.3)	1.3 (1.1–1.4)
Ponatinib	268	7296	1.4 (1.2–1.6)	1.4 (1.2–1.6)
Other anti-cancer drugs	39,330	1,475,662	1 [Reference]	1 [Reference]

* adjusted for age and sex.

Table S5. Disproportionality analysis of hypertension submitted for TKIs compared to other anti-cancer drugs.

Hypertension				
Drugs	Cases	Non-cases	Crude ROR (95% CI)	aROR * (95% CI)
All TKIs	372	52,253	1.1 (1.0–1.2)	1.2 (1.0–1.4)
Bosutinib	4	506	1.2 (0.5–3.3)	1.2 (0.4–3.7)
Dasatinib	75	14,299	0.8 (0.6–1.0)	0.8 (0.6–1.0)
Imatinib	12	5721	0.3 (0.2–0.6)	0.2 (0.1–0.5)
Nilotinib	147	23,689	1.0 (0.8–1.2)	0.9 (0.8–1.1)
Ponatinib	134	7430	2.9 (2.4–3.4)	3.5 (2.9–4.3)
Other anti-cancer drugs	9505	1,505,487	1 [Reference]	1 [Reference]

* adjusted for age and sex.

Table S6. Disproportionality analysis of ischemic heart disease submitted for TKIs compared to other anti-cancer drugs.

Ischaemic Heart Disease				
Drugs	Cases	Non-cases	Crude ROR (95% CI)	aROR* (95% CI)
All TKIs	1565	51,060	3.9 (3.7–4.1)	3.8 (3.6–4.1)
Bosutinib	11	499	2.6 (1.4–4.7)	2.5 (1.3–4.8)
Dasatinib	122	14,252	1.0 (0.8–1.2)	1.0 (0.8–1.2)
Imatinib	35	5698	0.7 (0.5–1.0)	0.6 (0.4–0.9)
Nilotinib	1243	23,201	6.7 (6.3–7.1)	6.7 (6.2–7.2)
Ponatinib	154	7410	2.4 (2.0–2.8)	2.9 (2.4–3.5)
Other anti-cancer drugs	11,913	1,503,079	1 [Reference]	1 [Reference]

* adjusted for age and sex.

Table S7. Disproportionality analysis of pulmonary hypertension submitted for TKIs compared to other anti-cancer drugs.

Pulmonary Hypertension				
Drugs	Cases	Non-cases	Crude ROR (95% CI)	aROR * (95% CI)
All TKIs	175	52,450	3.5 (3.0–4.1)	3.9 (3.2–4.7)
Bosutinib	1	509	n/a	n/a
Dasatinib	113	14,261	8.3 (6.8–10.0)	8.5 (6.8–10.6)
Imatinib	19	5714	3.3 (2.0–5.2)	3.9 (2.4–6.4)
Nilotinib	30	24,414	1.2 (0.8–1.7)	1.1 (0.6–1.7)
Ponatinib	12	7552	1.6 (0.9–2.7)	1.3 (0.6–3.9)
Other anti-cancer drugs	1,422	1,513,570	1 [Reference]	1 [Reference]

* adjusted for age and sex.

Table S8. Disproportionality analysis of *torsade de pointes*/QT prolongation submitted for TKIs compared to other anti-cancer drugs.

Torsade de pointes/QT Prolongation				
Drugs	Cases	Non-cases	Crude ROR (95% CI)	aROR * (95% CI)
All TKIs	296	52,329	7.3 (6.4–8.3)	6.6 (5.6–7.8)
Bosutinib	1	509	n/a	n/a
Dasatinib	36	14,338	2.7 (1.9–3.8)	2.5 (1.6–3.7)
Imatinib	6	5727	1.1 (0.5–2.5)	0.8 (0.6–2.5)
Nilotinib	248	24,196	12.9 (11.2–14.8)	12.2 (10.3–14.6)
Ponatinib	5	7559	0.7 (0.3–1.7)	0.9 (0.3–2.4)
Other anti-cancer drugs	1178	1,513,814	1 [Reference]	1 [Reference]

* adjusted for age and sex.

Table S9. Table with SMQ “Cardiac Failure” and PTs used.

SMQ: Cardiac Failure		
PT	Acute left ventricular failure	Cor pulmonale acute
	Acute pulmonary oedema	Cor pulmonale chronic
	Acute right ventricular failure	Ejection fraction decreased
	Cardiac asthma	Hepatic congestion
	Cardiac failure	Hepatojugular reflux
	Cardiac failure acute	Left ventricular failure
	Cardiac failure chronic	Low cardiac output syndrome
	Cardiac failure congestive	Neonatal cardiac failure
	Cardiac failure high output	Obstructive shock
	Cardiogenic shock	Pulmonary oedema
	Cardiopulmonary failure	Pulmonary oedema neonatal
	Cardiorenal syndrome	Radiation associated cardiac failure
	Chronic left ventricular failure	Right ventricular ejection fraction decreased
	Chronic right ventricular failure	Right ventricular failure
	Cor pulmonale	Ventricular failure

Table S10. Table with SMQ “Cardiomyopathy” and PTs used.

SMQ: Cardiomyopathy		
PT	Atrial septal defect acquired	Hypertensive cardiomyopathy
	Biopsy heart abnormal	Hypertrophic cardiomyopathy
	Cardiac amyloidosis	Ischaemic cardiomyopathy
	Cardiac hypertrophy	Kearns-Sayre syndrome
	Cardiac sarcoidosis	Metabolic cardiomyopathy
	Cardiac septal hypertrophy	Muscular dystrophy
	Cardiac siderosis	Myocardial calcification
	Cardiomyopathy	Myocardial fibrosis
	Cardiomyopathy acute	Myocardial haemorrhage
	Cardiomyopathy alcoholic	Non-obstructive cardiomyopathy
	Cardiomyopathy neonatal	Peripartum cardiomyopathy
	Cardiotoxicity	Pulmonary arterial wedge pressure increased
	Congestive cardiomyopathy	Restrictive cardiomyopathy
	Cytotoxic cardiomyopathy	Right ventricular ejection fraction decreased
	Diabetic cardiomyopathy	Stress cardiomyopathy
	Ejection fraction abnormal	Tachycardia induced cardiomyopathy
	Ejection fraction decreased	Thyrotoxic cardiomyopathy
	Eosinophilic myocarditis	Ventricular septal defect acquired
	HIV cardiomyopathy	Viral cardiomyopathy

Table S11. Table with SMQ “Hypertension” and PTs used.

SMQ: Hypertension		
PT	Accelerated hypertension	Hypertensive heart disease
	Blood pressure ambulatory increased	Hypertensive nephropathy
	Blood pressure diastolic increased	Labile hypertension
	Blood pressure inadequately controlled	Malignant hypertension
	Blood pressure increased	Malignant hypertensive heart disease
	Blood pressure management	Malignant renal hypertension
	Blood pressure orthostatic increased	Maternal hypertension affecting foetus
	Blood pressure systolic increased	Mean arterial pressure increased
	Diastolic hypertension	Metabolic syndrome
	Eclampsia	Neurogenic hypertension

	Endocrine hypertension	Orthostatic hypertension
	Essential hypertension	Page kidney
	Gestational hypertension	Pre-eclampsia
	HELLP syndrome	Prehypertension
	Hyperaldosteronism	Primary hyperaldosteronism
	Hypertension	Procedural hypertension
	Hypertension neonatal	Renal hypertension
	Hypertensive angiopathy	Renal sympathetic nerve ablation
	Hypertensive cardiomegaly	Renovascular hypertension
	Hypertensive cardiomyopathy	Retinopathy hypertensive
	Hypertensive cerebrovascular disease	Secondary aldosteronism
	Hypertensive crisis	Secondary hypertension
	Hypertensive emergency	Supine hypertension
	Hypertensive encephalopathy	Systolic hypertension
	Hypertensive end-organ damage	Withdrawal hypertension

Table S12. Table with SMQ “Pulmonary hypertension” and PTs used.

SMQ: Pulmonary Hypertension		
PT	Acute right ventricular failure	Pulmonary valve incompetence
	Cardiac ventriculogram right abnormal	Pulmonary vascular resistance abnormality
	Central venous pressure increased	Pulmonary vein occlusion
	Chronic right ventricular failure	Pulmonary vein stenosis
	Cor pulmonale	Pulmonary veno-occlusive disease
	Cor pulmonale acute	Right atrial dilatation
	Cor pulmonale chronic	Right atrial enlargement
	Portopulmonary hypertension	Right atrial hypertrophy
	Pulmonary arterial hypertension	Right atrial pressure increased
	Pulmonary arterial pressure abnormal	Right ventricular dilatation
	Pulmonary arterial pressure increased	Right ventricular dysfunction
	Pulmonary arterial wedge pressure increased	Right ventricular enlargement
	Pulmonary artery dilatation	Right ventricular failure
	Pulmonary artery thrombosis	Right ventricular heave
	Pulmonary artery wall hypertrophy	Right ventricular hypertension
	Pulmonary capillary haemangiomatosis	Right ventricular hypertrophy
	Pulmonary endarterectomy	Right ventricular systolic pressure increased
	Pulmonary hypertension	Tricuspid valve incompetence
	Pulmonary hypertensive crisis	Vascular resistance pulmonary increased
	Pulmonary tumour thrombotic microangiopathy	

Table S13. Table with SMQ “Ischaemic heart disease” and PTs used.

SMQ: Ischaemic Heart Disease		
PT	Acute coronary syndrome	Coronary arterial stent insertion
	Acute myocardial infarction	Coronary artery bypass
	Angina unstable	Coronary artery compression
	Blood creatine phosphokinase MB abnormal	Coronary artery disease
	Blood creatine phosphokinase MB increased	Coronary artery dissection
	Coronary artery embolism	Coronary artery insufficiency
	Coronary artery occlusion	Coronary artery restenosis
	Coronary artery reocclusion	Coronary artery stenosis
	Coronary artery thrombosis	Coronary artery surgery
	Coronary bypass thrombosis	Coronary brachytherapy
	Coronary vascular graft occlusion	Coronary bypass stenosis
	Kounis syndrome	Coronary endarterectomy
	Myocardial infarction	Coronary no-reflow phenomenon

	Myocardial necrosis	Coronary ostial stenosis
	Myocardial reperfusion injury	Coronary revascularisation
	Myocardial stunning	Coronary vascular graft stenosis
	Papillary muscle infarction	Dissecting coronary artery aneurysm
	Periprocedural myocardial infarction	ECG signs of myocardial ischaemia
	Post procedural myocardial infarction	External counterpulsation
	Postinfarction angina	Haemorrhage coronary artery
	Silent myocardial infarction	Ischaemic cardiomyopathy
	Troponin I increased	Ischaemic mitral regurgitation
	Troponin increased	Microvascular coronary artery disease
	Troponin T increased	Myocardial hypoxia
	Angina pectoris	Myocardial ischaemia
	Angina unstable	Percutaneous coronary intervention
	Anginal equivalent	Prinzmetal angina
	Arteriosclerosis coronary artery	Stress cardiomyopathy
	Arteriospasm coronary	Subclavian coronary steal syndrome
	Coronary angioplasty	Subendocardial ischaemia

Table S14. Table with SMQ “Torsade de pointes/QT prolongation” and PTs used.

SMQ: Torsade de pointes/QT Prolongation		
PT	Electrocardiogram QT interval abnormal	Long QT syndrome congenital
	Electrocardiogram QT prolonged	Torsade de pointes
	Long QT syndrome	Ventricular tachycardia

Table S15. Table with SMQ “Cardiac arrhythmia” and PTs used.

SMQ: Cardiac Arrhythmia		
PT	Chronotropic incompetence	Withdrawal arrhythmia
	Electrocardiogram repolarisation abnormality	Accelerated idioventricular rhythm
	Electrocardiogram RR interval prolonged	Cardiac fibrillation
	Electrocardiogram U wave inversion	Parasystole
	Electrocardiogram U wave present	Rhythm idioventricular
	Electrocardiogram U-wave abnormality	Torsade de pointes
	Sudden cardiac death	Ventricular arrhythmia
	Arrhythmia	Ventricular extrasystoles
	Heart alternation	Ventricular fibrillation
	Heart rate irregular	Ventricular flutter
	Pacemaker generated arrhythmia	Ventricular parasystole
	Pacemaker syndrome	Ventricular pre-excitation
	Paroxysmal arrhythmia	Ventricular tachyarrhythmia
	Pulseless electrical activity	Ventricular tachycardia
	Reperfusion arrhythmia	

Table S16. Table with SMQ “Embolic and thrombotic events” and PTs used.

SMQ: Embolic and Thrombotic Events		
PT	Acute aortic syndrome	Pulmonary venous thrombosis
	Acute myocardial infarction	Renal vein embolism
	Amaurosis	Renal vein occlusion
	Amaurosis fugax	Renal vein thrombosis
	Angioplasty	Retinal vein occlusion
	Aortic bypass	Retinal vein thrombosis
	Aortic embolus	SI QIII TIII pattern
	Aortic surgery	Splenic vein occlusion
	Aortic thrombosis	Splenic vein thrombosis
	Aortogram abnormal	Subclavian vein occlusion
	Arterectomy	Subclavian vein thrombosis

Arterectomy with graft replacement	Superior sagittal sinus thrombosis
Arterial bypass occlusion	Superior vena cava occlusion
Arterial bypass operation	Superior vena cava syndrome
Arterial bypass thrombosis	Thrombophlebitis
Arterial graft	Thrombophlebitis migrans
Arterial occlusive disease	Thrombophlebitis neonatal
Arterial stent insertion	Thrombophlebitis superficial
Arterial therapeutic procedure	Thrombosed varicose vein
Arterial thrombosis	Thrombosis corpora cavernosa
Arteriogram abnormal	Transverse sinus thrombosis
Arteriogram carotid abnormal	Vascular graft
Arteriotomy	Vena cava embolism
Atherectomy	Vena cava filter insertion
Atherosclerotic plaque rupture	Vena cava filter removal
Atrial appendage closure	Vena cava thrombosis
Basal ganglia infarction	Venogram abnormal
Basilar artery occlusion	Venooclusive disease
Basilar artery thrombosis	Venooclusive liver disease
Blindness transient	Venous angioplasty
Brachiocephalic artery occlusion	Venous occlusion
Capsular warning syndrome	Venous operation
Carotid angioplasty	Venous recanalisation
Carotid arterial embolus	Venous repair
Carotid artery bypass	Venous stent insertion
Carotid artery occlusion	Venous thrombosis
Carotid artery stent insertion	Venous thrombosis in pregnancy
Carotid artery thrombosis	Venous thrombosis limb
Carotid endarterectomy	Venous thrombosis neonatal
Cerebellar artery occlusion	Visceral venous thrombosis
Cerebellar artery thrombosis	Administration site thrombosis
Cerebellar embolism	Adrenal thrombosis
Cerebral artery embolism	Angiogram abnormal
Cerebral artery occlusion	Angiogram cerebral abnormal
Cerebral artery thrombosis	Angiogram peripheral abnormal
Cerebral hypoperfusion	Angioplasty
Cerebral vascular occlusion	Application site thrombosis
Cerebrovascular insufficiency	Arteriovenous fistula occlusion
Cerebrovascular stenosis	Arteriovenous fistula thrombosis
Coeliac artery occlusion	Arteriovenous graft thrombosis
Coronary angioplasty	Artificial blood vessel occlusion
Coronary arterial stent insertion	Atrial thrombosis
Coronary artery bypass	Basal ganglia stroke
Coronary artery embolism	Bone infarction
Coronary artery occlusion	Brain stem embolism
Coronary artery reocclusion	Brain stem infarction
Coronary artery surgery	Brain stem stroke
Coronary artery thrombosis	Brain stem thrombosis
Coronary endarterectomy	Cardiac ventricular thrombosis
Coronary revascularisation	Catheter site thrombosis
Coronary vascular graft occlusion	Cerebellar embolism
Embolia cutis medicamentosa	Cerebellar infarction
Embolism	Cerebral congestion
Embolism arterial	Cerebral infarction
Endarterectomy	Cerebral infarction foetal
Femoral artery embolism	Cerebral ischaemia
Hepatic artery embolism	Cerebral microembolism
Hepatic artery occlusion	Cerebral septic infarct
Hepatic artery thrombosis	Cerebral thrombosis
Hypothenar hammer syndrome	Cerebral vascular occlusion
Iliac artery embolism	Cerebrospinal thrombotic tamponade
Iliac artery occlusion	Cerebrovascular accident
Intra-aortic balloon placement	Cerebrovascular accident prophylaxis
Intraoperative cerebral artery occlusion	Cerebrovascular disorder
Ischaemic cerebral infarction	Cerebrovascular operation
Ischaemic stroke	Choroidal infarction
Lacunar infarction	Collateral circulation
Leriche syndrome	Coronary angioplasty

Mesenteric arterial occlusion	Coronary artery thrombosis
Mesenteric arteriosclerosis	Coronary bypass thrombosis
Mesenteric artery embolism	Device embolisation
Mesenteric artery stenosis	Device occlusion
Mesenteric artery stent insertion	Device related thrombosis
Mesenteric artery thrombosis	Diplegia
Myocardial infarction	Directional Doppler flow tests abnormal
Myocardial necrosis	Disseminated intravascular coagulation
Papillary muscle infarction	Disseminated intravascular coagulation in newborn
Penile artery occlusion	Embolic cerebral infarction
Percutaneous coronary intervention	Embolic pneumonia
Peripheral arterial occlusive disease	Embolic stroke
Peripheral arterial reocclusion	Embolism
Peripheral artery angioplasty	Foetal cerebrovascular disorder
Peripheral artery bypass	Graft thrombosis
Peripheral artery occlusion	Haemorrhagic adrenal infarction
Peripheral artery stent insertion	Haemorrhagic cerebral infarction
PT Peripheral artery thrombosis	Haemorrhagic infarction
Peripheral embolism	Haemorrhagic stroke
Peripheral endarterectomy	Haemorrhagic transformation stroke
Popliteal artery entrapment syndrome	Haemorrhoids thrombosed
Post procedural myocardial infarction	Hemiparesis
Postinfarction angina	Hemiplegia
Precerebral artery occlusion	Heparin-induced thrombocytopenia
Precerebral artery thrombosis	Hepatic infarction
Profundaplasty	Hepatic vascular thrombosis
Pulmonary artery occlusion	Implant site thrombosis
Pulmonary artery therapeutic procedure	Incision site vessel occlusion
PT Pulmonary artery thrombosis	Infarction
Pulmonary endarterectomy	Infusion site thrombosis
Pulmonary tumour thrombotic microangiopathy	Injection site thrombosis
Renal artery angioplasty	Inner ear infarction
Renal artery occlusion	Instillation site thrombosis
Renal artery thrombosis	Intestinal infarction
Renal embolism	Intracardiac mass
Retinal artery embolism	Intracardiac thrombus
Retinal artery occlusion	Medical device site thrombosis
Retinal artery thrombosis	Mesenteric arterial occlusion
Silent myocardial infarction	Mesenteric vascular insufficiency
Spinal artery embolism	Mesenteric vascular occlusion
Spinal artery thrombosis	Mesenteric venous occlusion
Splenic artery thrombosis	Microembolism
Splenic embolism	Monoparesis
Stress cardiomyopathy	Monoplegia
Stroke in evolution	Optic nerve infarction
Subclavian artery embolism	Pancreatic infarction
Subclavian artery occlusion	Paradoxical embolism
Subclavian artery thrombosis	Paraneoplastic thrombosis
Superior mesenteric artery syndrome	Paraparesis
Thromboembolectomy	Paraplegia
Thrombotic microangiopathy	Paresis
Thrombotic thrombocytopenic purpura	Peripheral revascularisation
Transient ischaemic attack	Pituitary infarction
Truncus coeliacus thrombosis	Placental infarction
Vascular pseudoaneurysm thrombosis	Pneumatic compression therapy
Vertebral artery occlusion	Portal shunt
Vertebral artery thrombosis	Portal shunt procedure
Visual acuity reduced transiently	Post procedural stroke
Axillary vein thrombosis	Postpartum thrombosis
Brachiocephalic vein occlusion	Prosthetic vessel implantation
Brachiocephalic vein thrombosis	Quadriparesis
Budd-Chiari syndrome	Quadriplegia
Catheterisation venous	Renal artery angioplasty
Cavernous sinus thrombosis	Renal infarct
Central venous catheterisation	Renal vascular thrombosis
Cerebral venous thrombosis	Retinal infarction
Compression garment application	Retinal vascular thrombosis

Deep vein thrombosis	Shunt occlusion
Deep vein thrombosis postoperative	Shunt thrombosis
Embolism venous	Silent myocardial infarction
Hepatic vein embolism	Spinal cord infarction
Hepatic vein occlusion	Splenic infarction
Hepatic vein thrombosis	Splenic thrombosis
Homans' sign positive	Stoma site thrombosis
Iliac vein occlusion	Stroke in evolution
Inferior vena cava syndrome	Surgical vascular shunt
Inferior vena caval occlusion	Testicular infarction
Intracranial venous sinus thrombosis	Thalamic infarction
Jugular vein occlusion	Thrombectomy
Jugular vein thrombosis	Thromboangiitis obliterans
Mahler sign	Thrombolysis
May-Thurner syndrome	Thrombosis
Mesenteric vein thrombosis	Thrombosis in device
Mesenteric venous occlusion	Thrombosis mesenteric vessel
Obstetrical pulmonary embolism	Thrombosis prophylaxis
Obstructive shock	Thrombotic cerebral infarction
Ophthalmic vein thrombosis	Thrombotic stroke
Ovarian vein thrombosis	Thyroid infarction
Paget-Schroetter syndrome	Tumour embolism
Pelvic venous thrombosis	Tumour thrombosis
Penile vein thrombosis	Ultrasonic angiogram abnormal
Phlebectomy	Ultrasound Doppler abnormal
Portal vein cavernous transformation	Umbilical cord occlusion
Portal vein occlusion	Umbilical cord thrombosis
Portal vein thrombosis	Vaccination site thrombosis
Portosplenomesenteric venous thrombosis	Vascular access site thrombosis
Post procedural pulmonary embolism	Vascular graft
Post thrombotic syndrome	Vascular graft occlusion
Postoperative thrombosis	Vascular graft thrombosis
Postpartum venous thrombosis	Vascular operation
Pulmonary embolism	Vascular stent insertion
Pulmonary infarction	Vascular stent occlusion
Pulmonary microemboli	Vascular stent thrombosis
Pulmonary oil microembolism	Vasodilation procedure
Pulmonary thrombosis	Vessel puncture site occlusion
Pulmonary vein occlusion	Vessel puncture site thrombosis
Pulmonary veno-occlusive disease	Visual midline shift syndrome



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