CHIẾN LƯỢC PHÒNG NGỪA TÁI PHÁT ĐỘT QUỴ CÁ THỂ HOÁ

Bs. CKII. Phạm Thị Ngọc Quyên

Trung tâm khoa học Thần kinh – Bệnh viện Đại học Y Dược TP. Hồ Chí Minh

TẠI SAO PHÒNG NGỪA TÁI PHÁT LẠI QUAN TRỌNG?

Theo nghiên cứu phân tích tổng hợp gần đây, nguy cơ đột quỵ tái phát hàng năm # 4,26%.

Nguy cơ tái phát đột quỵ gây tử vong hàng năm # 0,77%, nguy cơ đột quỵ tái phát không gây tử vong hàng năm # 2,92%.

Làm xấu thêm tình trạng chức năng, tăng mức độ tàn tật, tăng tỷ lệ phải sống phụ thuộc, và tăng chi phí nằm viện cùng tỷ lệ tử vong.

Taweephol, T., Saksit, P., Hiransuthikul, A. *et al.* Incidence of recurrent ischemic stroke and its associated factors in a tertiary care center in Thailand: a retrospective cohort study. *BMC Neurol* **24**, 152 (2024). https://doi.org/10.1186/s12883-024-03640-0

Người bệnh Đột quỵ thiếu máu não sẽ được điều trị như thế nào khi nhập viện?

GĐ TỐI CẤP

- *Điều trị tái thông*
  - ❖ *Bằng thuốc*
  - ❖ *Lấy huyết khối cơ học*

GĐ CẤP

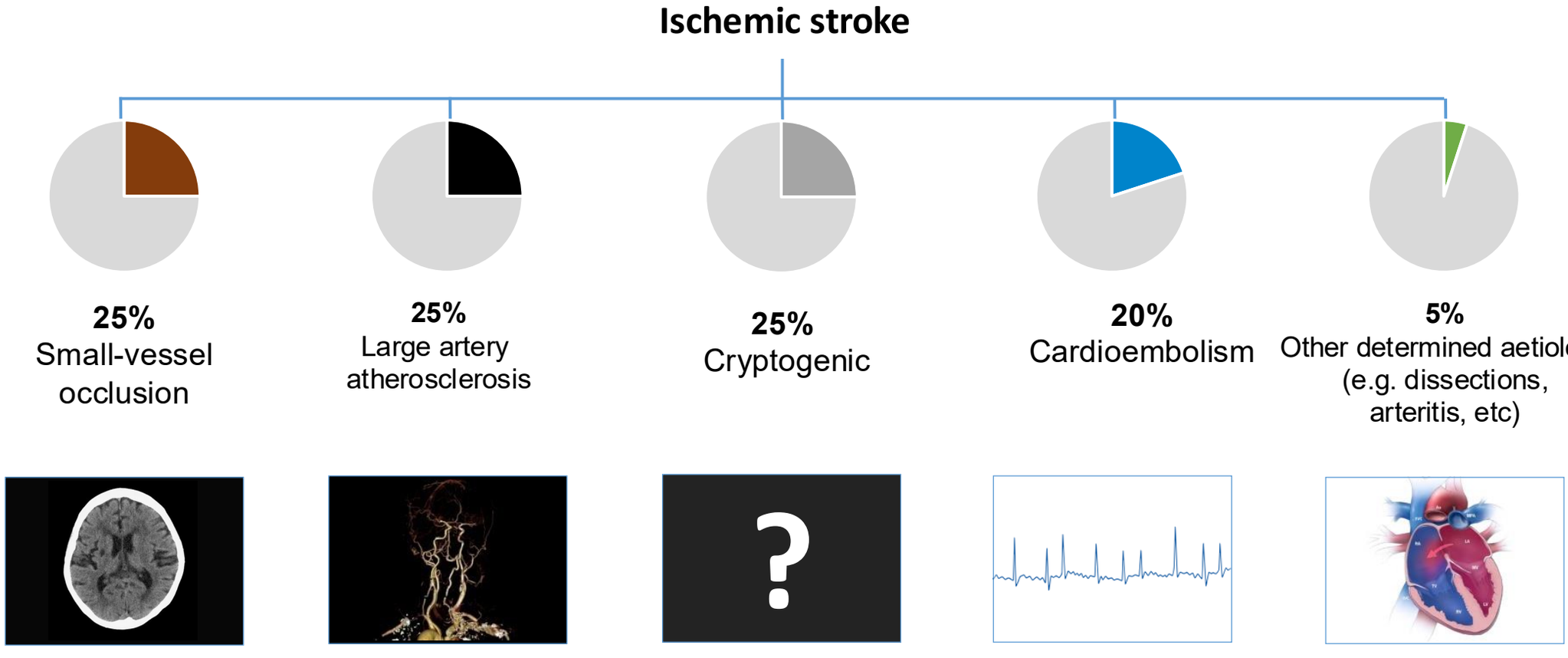
- *Dự phòng tái phát*
- *Kiểm soát yếu tố nguy cơ*
- *Điều trị và dự phòng biến chứng*
- *Tầm soát căn nguyên*
- *Tập PHCN*

GĐ PHCN

- *Dự phòng tái phát*
- *Kiểm soát các yếu tố nguy cơ*
- *Tập PHCN*

CATEGORIZATION OF SUBTYPES OF ISCHAEMIC STROKE

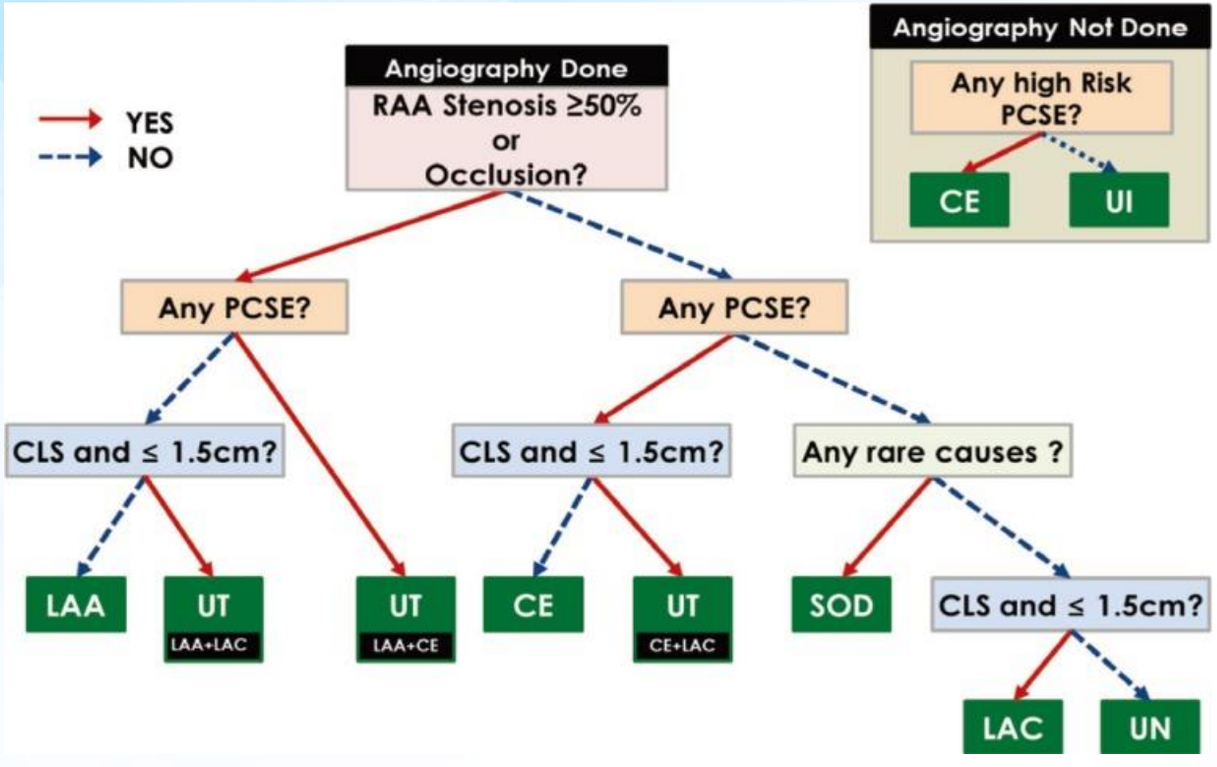
(TOAST classification – Trial of Org 10172 in Acute Stroke Treatment)



TOAST, Trial of ORG 10172 in Acute Stroke Treatment

Adams et al. Stroke 1993; Hart et al. Lancet Neurol 2014

LƯỢC ĐỒ RA QUYẾT ĐỊNH ĐIỀU TRỊ THEO TOAST



1. Presence of angiographic evaluations
2. Atherosclerotic stenosis >50% or occlusion on the relevant artery
3. Potential cardiac sources of embolism
4. Classic lacunar syndrome
5. Subcortical infarction <1.5 cm
6. Other rare causes of stroke

Table 2

Stroke classification systems from Asian countries

	Kim et al. (2005)[49]	Han et al. (2007)[50]	CISS (2011)[51]
Subtypes	LAA CE SVO occlusion OD UD	Atherothrombosis CE Small artery disease OD UD	LAA Cardiogenic stroke Penetrating artery disease OD UD
Significant stenosis for diagnosing LAA	Stenosis considered to be responsible for stroke Degree not limited	>50% Any degree of stenosis with single ischemic lesion on perforating artery	>50% or unstable plaque Penetrating artery territory infarction with atherosclerotic plaque on HR-MRI or any degree of stenosis
Aortic arch atherosclerosis	Not described	Atherosclerosis	LAA
Diameter limitation for SVO	20 mm	No limitation	No limitation
Other advantages	Only simple changes to the widely-used TOAST classification	Considered underlying atherosclerosis burden Reduced proportion of strokes of undetermined etiology	Classified single subcortical infarctions according to mechanism
Other disadvantages	Still limits diameter for small-vessel occlusion Subjective definition of stenosis responsible for LAA	Totally different from previous classification systems	Unclear description of "unstable plaque" Depends on advanced imaging techniques

LAA, large artery atherosclerosis; CE, cardioembolism; SVO, small-vessel occlusion; OD, other determined; UD, undetermined.

CHIẾN LƯỢC ĐIỀU TRỊ DỰ PHÒNG TÁI PHÁT

PHÒNG NGỪA THEO CĂN NGUYÊN

PHÒNG NGỪA THEO YẾU TỐ NGUY CƠ

ĐIỀU TRỊ DỰ PHÒNG TÁI PHÁT ĐỘT QUỴ THIẾU MÁU NÃO

THEO CĂN NGUYÊN

Kháng kết tập tiểu cầu

Kháng đông

Can thiệp hẹp ICA ngoài sọ cùng bên

KIỂM SOÁT YẾU TỐ NGUY CƠ

Tăng huyết áp

Tăng cholesterol

Đái tháo đường

Hút thuốc lá

Hội chứng ngưng thở khi ngủ,…

AHA/ASA GUIDELINE

2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack

A Guideline From the American Heart Association/American Stroke Associa

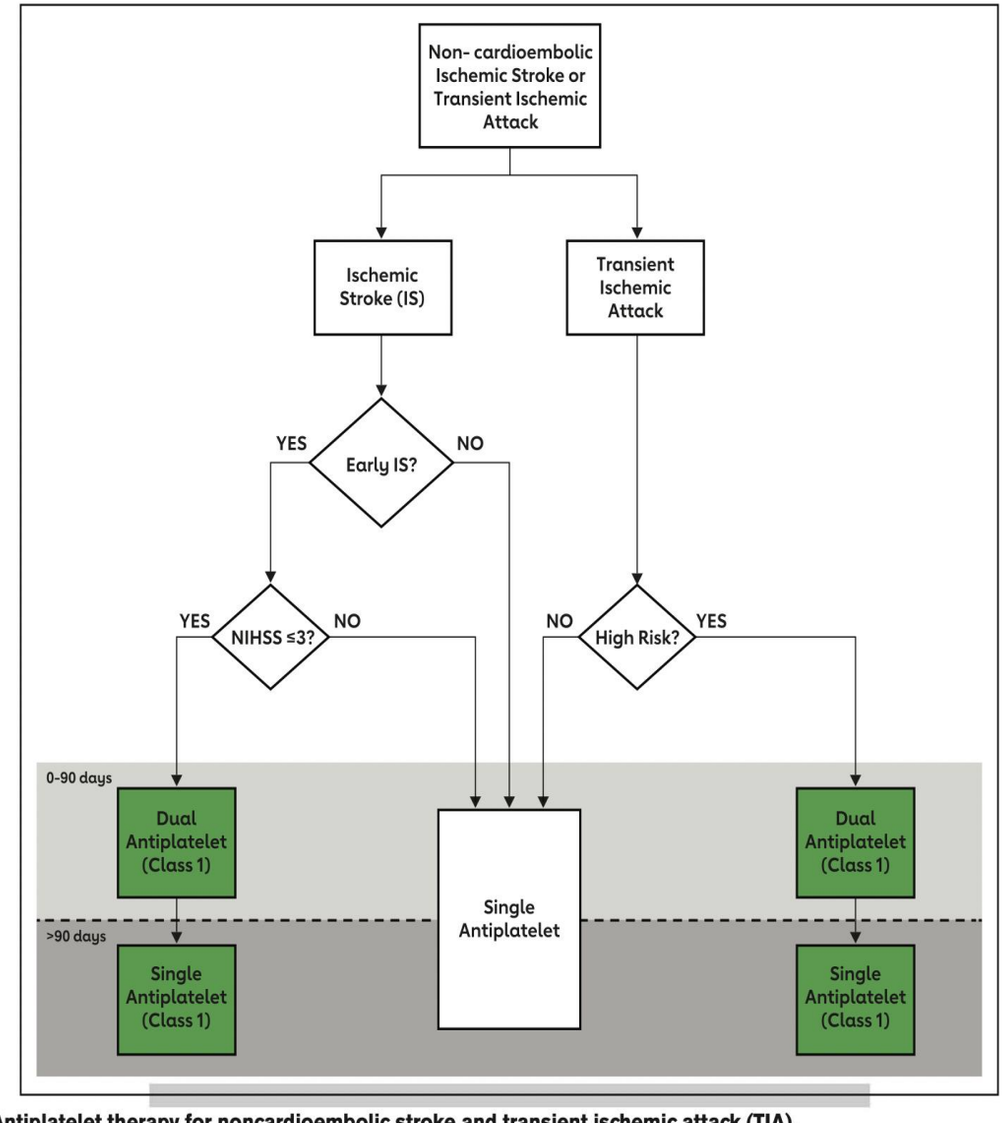
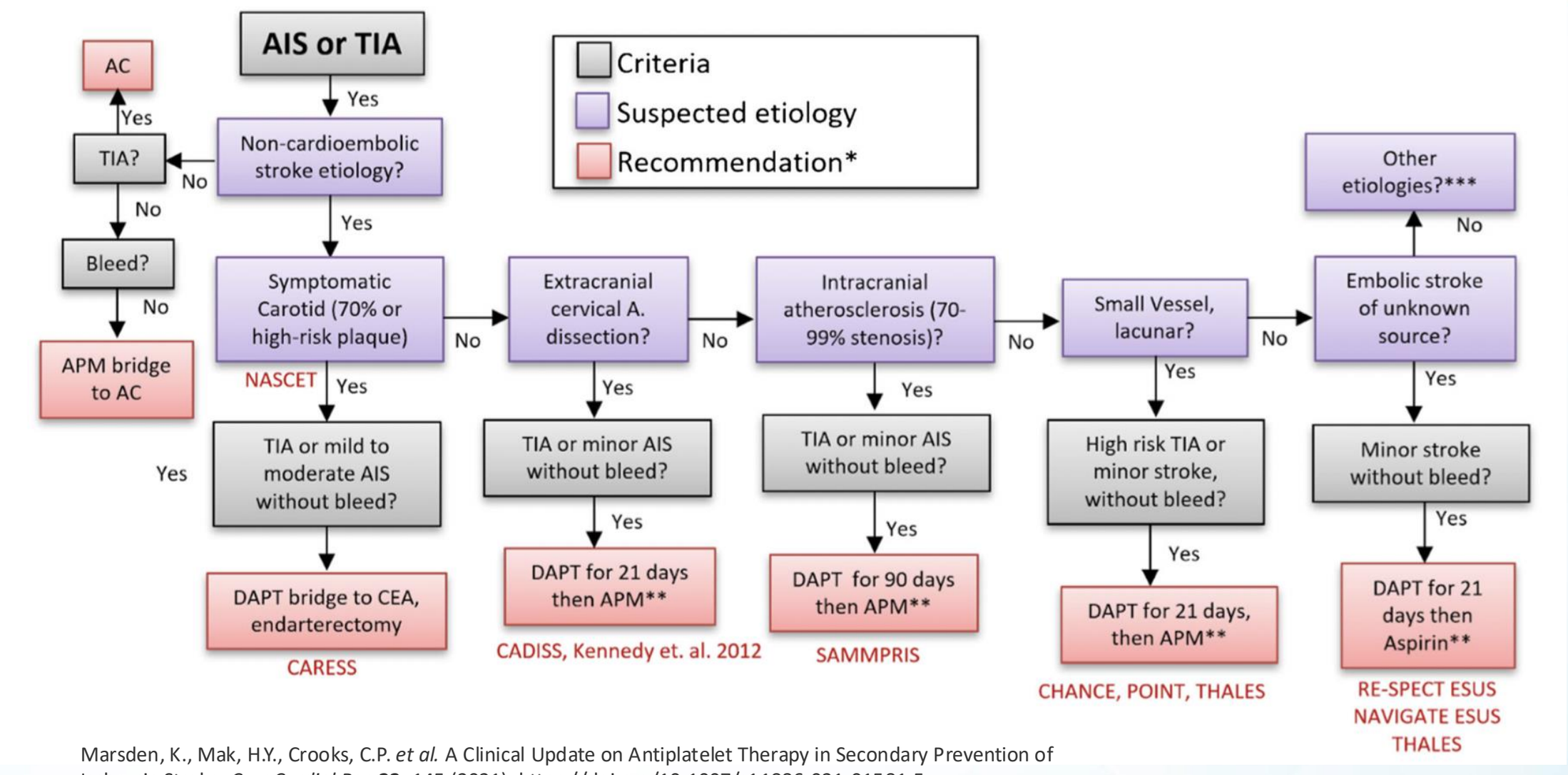


Figure 6. **Antiplatelet therapy for noncardioembolic stroke and transient ischemic attack (TIA).**



Marsden, K., Mak, H.Y., Crooks, C.P. *et al.* A Clinical Update on Antiplatelet Therapy in Secondary Prevention of Ischemic Stroke. *Curr Cardiol Rep* **23**, 145 (2021). https://doi.org/10.1007/s11886-021-01581-5

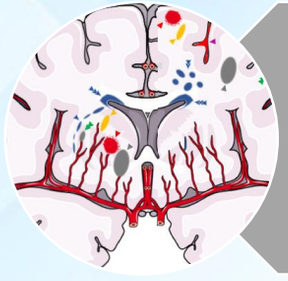
KHUYẾN CÁO

Table 2. Recommendations for DAPT for acute MIS and high-risk TIA in international stroke guidelines[10-15,17]

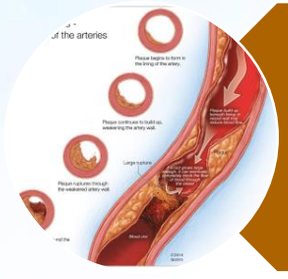
Guideline	Initiation window	Recommendation and treatment duration	Dosing regimen
American Heart Association/American Stroke Association (2021)	24 hours	Recommendation of COR I, LOE A: DAPT (clopidogrel and aspirin) for 21 to 90 days followed by SAPT	Initiation: DAPT with clopidogrel and aspirin Maintenance: SAPT
		Recommendation of COR IIb, LOE B-R: DAPT (ticagrelor and aspirin) for 30 days	Initiation: DAPT with ticagrelor and aspirin
European Stroke Organisation (2021)	24 hours	Strong recommendation: DAPT (clopidogrel and aspirin) for 21 days followed by SAPT	Initiation: DAPT with clopidogrel and aspirin[a] Maintenance: SAPT
		Weak recommendation: DAPT (ticagrelor and aspirin) for 30 days	Initiation: DAPT with ticagrelor and aspirin
Australian Stroke Foundation (2021)	24 hours	Strong recommendation: DAPT (clopidogrel and aspirin) for 21 days followed by SAPT	Initiation: DAPT with clopidogrel and aspirin[b] Maintenance: SAPT
		Weak recommendation: DAPT (ticagrelor and aspirin) for 30 days	Initiation: DAPT with ticagrelor and aspirin
Taiwan Stroke Society (2022)	24 hours	Recommendation of COR I, LOE A: DAPT (clopidogrel and aspirin) for 21 days followed by SAPT	Initiation: DAPT with clopidogrel and aspirin Maintenance: SAPT
		Recommendation of Class IIb, LOE BR: DAPT (ticagrelor and aspirin) for 30 days	Initiation: DAPT with ticagrelor and aspirin
Canadian Stroke Best Practices (2018)	24 hours	Recommendation of LOE A DAPT (clopidogrel and aspirin) for 21 to 30 days followed by SAPT	Initiation: DAPT with clopidogrel and aspirin[c] Maintenance: SAPT

[a]ESO guideline recommends a single loading dose of 300 mg of clopidogrel in patients not already taking the relevant medication.
[b]Australian guideline recommends a loading dose of 300 mg of aspirin and 300–600 mg of clopidogrel followed by 100–150 mg of aspirin and 75 mg of clopidogrel daily for 21 days.
[c]Canadian guideline recommends a loading dose of 300–600 mg of clopidogrel and 160 mg of aspirin at the start of treatment.
COR: class of recommendation; DAPT: dual antiplatelet therapy; LOE: level of evidence; MIS: minor ischemic stroke; SAPT: single antiplatelet therapy; TIA: transient ischemic attack.

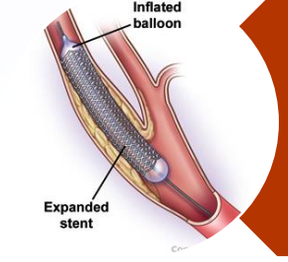
KHÁNG TIỂU CẦU KÉP TRONG DỰ PHÒNG ĐỘT QUỴ TÁI PHÁT



Đột quỵ nhẹ (NIHSS $\leq$ 3 hay $\leq$ 5) hoặc TIA nguy cơ cao (ABCD2 $\geq$ 4)

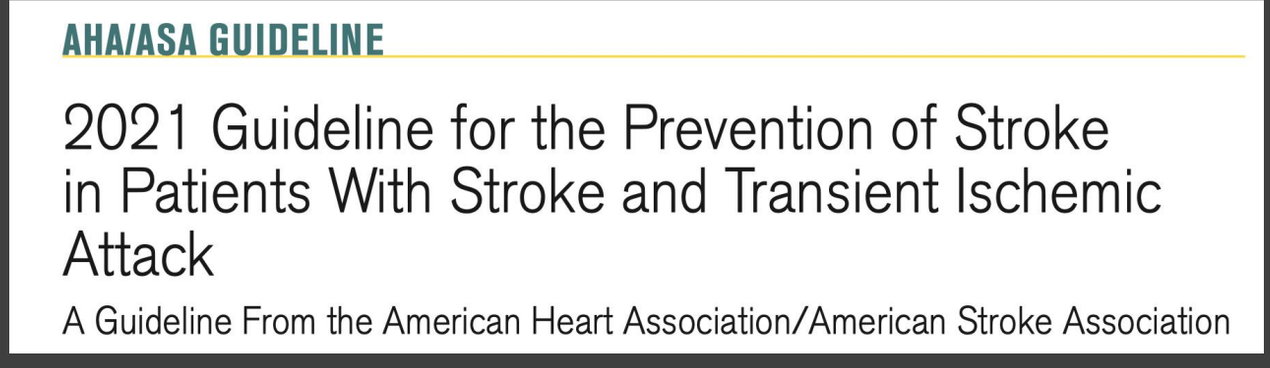


Đột quỵ thiếu máu não hoặc TIA gần đây (trong vòng 30 ngày) do hẹp nặng động mạch lớn nội sọ liên quan (70%–99%).



Sau đặt Stent ICA.

KHÁNG TIỂU CẦU KÉP KÉO DÀI BAO LÂU?



Minor stroke (NIHSS ≤ 3 OR ≤ 5) or high-risk TIA	21- 90 days
Severe symptomatic intracranial stenosis (70%–99%)	90 days
After extracranial/ intracranial Stenting	1 month

LIỀU TẢI VÀ LIỀU DUY TRÌ

Nghiên cứu CHANCE	300-mg clopidogrel load (then 75 mg daily) and an aspirin load of 75 to 300 mg followed by 75 mg daily
Nghiên cứu POINT	600-mg clopidogrel load (then 75 mg daily) and an aspirin regimen of 50 to 325 mg daily
Nghiên cứu THALES	ticagrelor (180-mg loading dose, then 90 mg twice daily) plus aspirin (300- to 325mg loading does, then 75–100 mg daily)

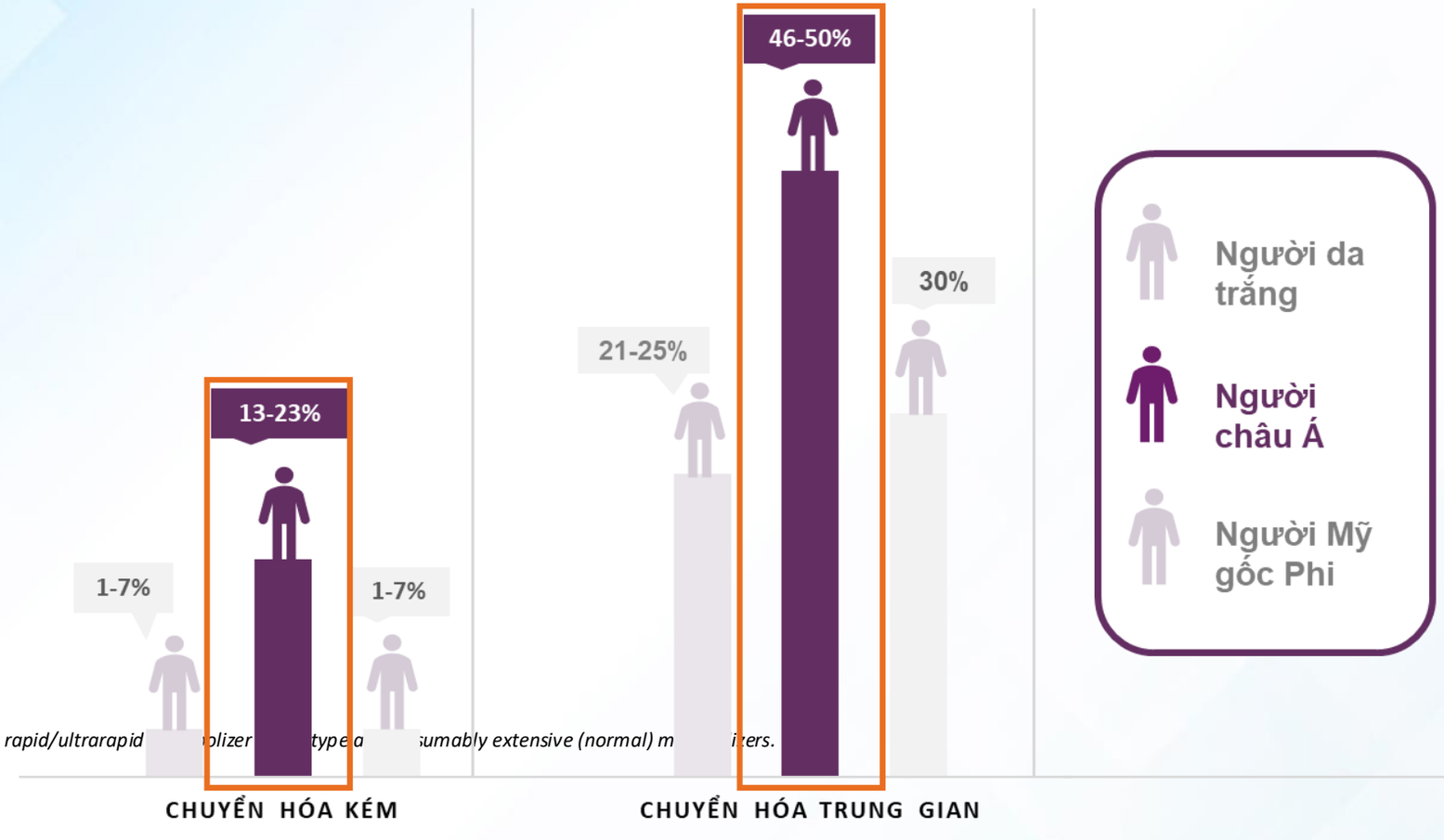
LOẠI KHÁNG TIỂU CẦU ĐƠN TRỊ LIỆU SAU ĐIỀU TRỊ KÉP

Table 2 Select dosing, mechanism of action, and pharmacokinetics of antiplatelet agents

Drug	Dosing*	Mechanism of action	Pharmacokinetics
Aspirin [63]	L: 325mg M: 81–325mg daily	- Irreversible inhibition of COX-1 >>> COX-2, leading to decreased production of PGH_2 and TXA_2, resulting in decreased platelet aggregation	- As a weakly acidic drug, it is absorbed through gastric & upper intestinal mucosa in lipophilic unionized state. Mucosal esterases hydrolyze aspirin into salicylic acid, its inactive form
Clopidogrel [64]	L: 300–600mg M: 75mg daily	- Active metabolite irreversibly inhibits ADP binding to $P2Y_{12}$ receptor, preventing activation of glycoprotein IIb/IIIa complex and subsequent binding of fibrinogen and vWF through lifetime of platelet	- Inactive prodrug transported across intestinal mucosa via P-glycoprotein - Converted to active metabolite through a 2-step oxidative process in the liver, primarily via CYP2C19
Cilostazol [65]	M: 100mg twice daily	- Reversibly inhibits PDE-3, increasing cAMP levels preventing platelet aggregation - Inhibits adenosine uptake and adenosine-induced platelet activation through decreased expression of GPIIb/IIIa receptors on platelets - Induces expression of endothelium-derived PGI_2	- Rapidly absorbed and extensively metabolized by CYP3A4 and 2C19 - Pharmacologic effects exerted through cilostazol and its more potent active metabolite 3,4-dehydro cilostazol
Dipyridamole ER [66]	M: 200mg twice daily	- Inhibits adenosine deaminase and PDE increasing cAMP, preventing release of arachidonic acid from membrane phospholipids and reduces TXA_2 activity - Stimulates release of prostacyclin preventing platelet aggregation	- Metabolized in the liver to glucuronide conjugate and excreted in the feces
Ticagrelor [67]	L: 180mg M: 90mg twice daily	- Reversibly binds and non-competitively inhibits $P2Y_{12}$ receptor at a site distinct from the ADP binding site, resulting in conformational changes to the $P2Y_{12}$ receptor	- Rapidly absorbed and metabolized by CYP3A4/5 - Pharmacologic effects exerted through ticagrelor and active metabolite AR-C124910XX

*Based on available US formulations. Abbreviations: *L* loading dose, *M* maintenance dose, *COX-1* cyclooxygenase-1, *TXA_2* thromboxane A2, *ADP* adenosine diphosphate, *CYP* cytochrome P450, *PGH_2* prostaglandin H_2, *PDE-3* phosphodiesterase 3

LƯU Ý VỀ ĐỘT BIẾN GEN CYP2C19



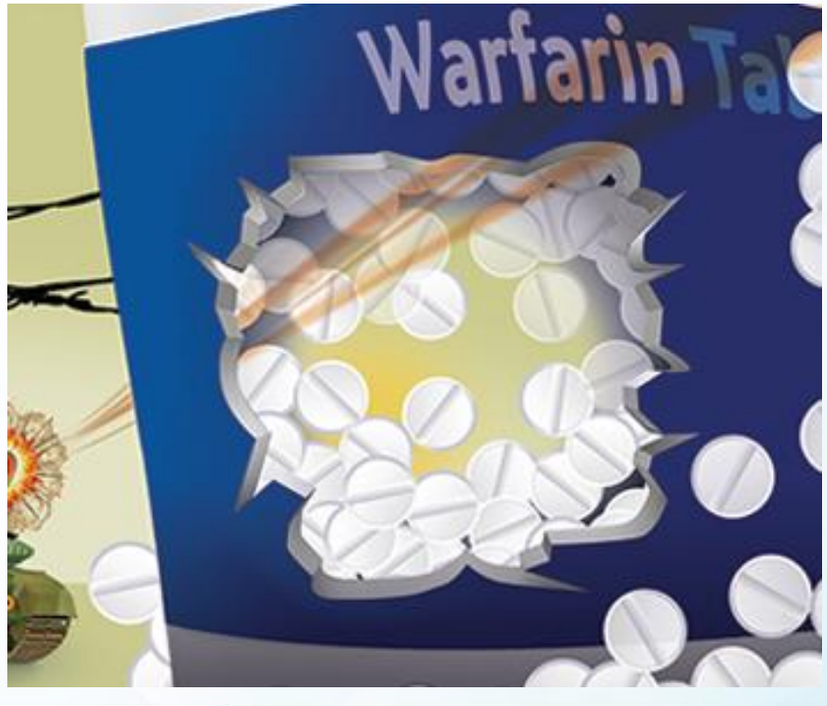
Note: Patients without the poor, intermediate, or rapid/ultrarapid olizer type a sumably extensive (normal) m izers.

CYP = cytochrome P450; LOF = loss-of-function.

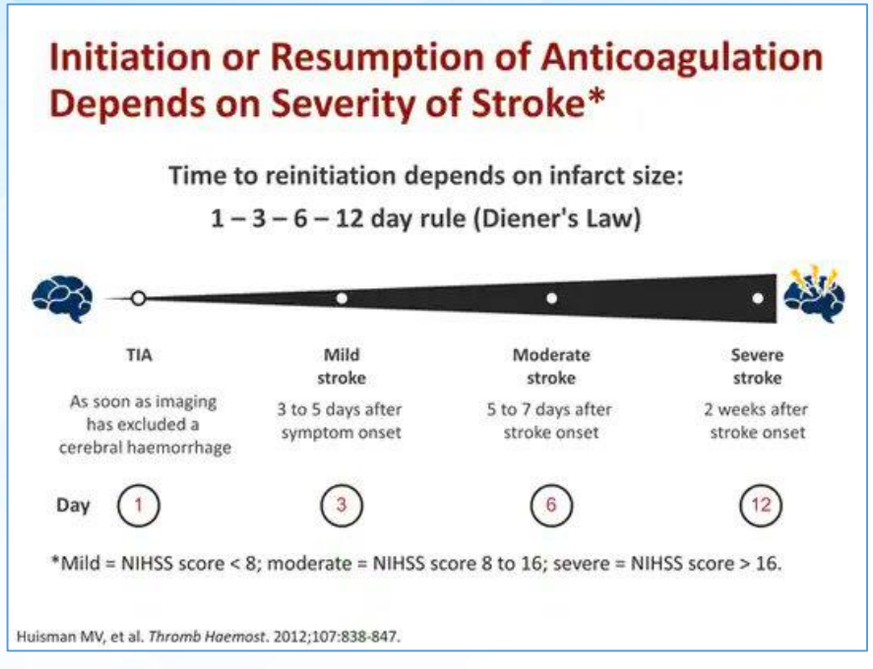
1. Wallentin L et al. Lancet. 2010;376:1320-1328; 2. Cavallari LH et al. Pharmgenomics Pers Med. 2011;4:123-136; 3. PharmGKB Biogeographical Groups. www.cpicpgx.org.

ĐIỀU TRỊ KHÁNG ĐÔNG TRONG PHÒNG NGỪA ĐỘT QUỴ TÁI PHÁT

- Valvular Atrial Fibrillation
- Nonvalvular Atrial Fibrillation
- Cerebral venous sinus thrombosis
- Antiphospholipid syndrome
- Some cases of carotid and vertebral artery dissections



KHI NÀO CÓ THỂ KHỞI ĐỘNG KHÁNG ĐÔNG?



European Heart Rhythm Association Practical Guide on the Use of Non–Vitamin K Antagonist Oral Anticoagulants in Patients with Atrial Fibrillation (2018)

CLINICAL AND POPULATION SCIENCES

Practical "1-2-3-4-Day" Rule f Oral Anticoagulants After Isch Atrial Fibrillation: Combined H Cohort Study

Shunsuke Kimura, MD; Kazunori Toyoda, MD; Sohei Yoshimura, MD; Kazu Masahiro Yasaka, MD; Maurizio Paciaroni, MD; David J. Werring, MD; Hi Takehiko Nagao, MD; Shinichi Yoshimura, MD; Alexandros Polymeris, M Stefan T. Engelter, MD; Bernd Kallmünzer, MD; Manuel Cappellari, MD; Takeshi Yoshimoto, MD; Masayuki Shiozawa, MD; Takanari Kitazono, MD; LAXED, RAF, RAF-NOAC, CROMIS-2, NOACISP LONGTERM, Erlangen Reg

BACKGROUND: The "1-3-6-12-day rule" for starting direct oral anticoagul fibrillation after acute ischemic stroke or transient ischemic attack recomm practice. We investigated more practical optimal timing of DOAC initiation

METHODS: The combined data of prospective registries in Japan, Strok Assessment and Improvement-nonvalvular atrial fibrillation (September 2 2014 to April 2016) were used. Patients were divided into transient ischen Institutes of Health Stroke Scale score: mild (0–7), moderate (8–15), a defined as patients starting DOACs earlier than the median initiation day ir of recurrent stroke or systemic embolism, ischemic stroke, and severe bl registries were used for validation.

RESULTS: In the 1797 derivation cohort patients, DOACs were started at med and 5 days after mild, moderate, and severe strokes, respectively. Stroke or s (n=785)—initiating DOACS within 1, 2, 3, and 4 days, respectively—than Late G ratio, 0.50 [95% CI, 0.27–0.89]), as was ischemic stroke (1.7% versus 3.2% common in the 2 groups (0.8% versus 1.0%). On validation, both ischemic stro (0.2% versus 0.6%) were similarly common in Early (n=547) and Late (n=14

CONCLUSIONS: In Japanese and European populations, early DOAC initiat severity seemed to be feasible to decrease the risk of recurrent stroke bleeding. These findings support ongoing randomized trials to better estab

GRAPHIC ABSTRACT: A graphic abstract is available for this article.

Key Words: acute ischemic stroke ■ anticoagulation ■ atrial fibrillatior

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*A list of all SAMURAI, RELAXED, RAF, RAF-NOAC, CROMIS-2, NOACISP LONGTERM, Erlange mental Material.
This manuscript was sent to Theresa A. Jones, Guest Editor, for review by expert referees, editorial d Supplemental Material is available at https://www.ahajournals.org/doi/suppl/10.1161/STROKEAH For Sources of Funding and Disclosures, see page 1548.

Stroke is available at www.ahajournals.org/journal/str

ORIGINAL ARTICLE

Early versus Later Anticoagulation for Stroke with Atrial Fibrillation

U. Fischer, M. Koga, D. Strbian, M. Branca, S. Abend, S. Trelle, M. Paciaroni, G. Thomalla, P. Michel, K. Nedeltchev, L.H. Bonati, G. Ntaios, T. Gattringer, E.-C. Sandset, P. Kelly, R. Lemmens, P.N. Sylaja, D. Aguiar de Sousa, N.M. Bornstein, Z. Gdovinova, T. Yoshimoto, M. Tiainen, H. Thomas, M. Krishnan, G.C. Shim, C. Gumbinger, J. Vehoff, L. Zhang, K. Matsuzono, E. Kristoffersen, P. Desfontaines, P. Vanacker, A. Alonso, Y. Yakushiji, C. Kulyk, D. Hemelsoet, S. Poli, A. Paiva Nunes, N. Caracciolo, P. Slade, J. Demeestere, A. Salerno, M. Kneihsl, T. Kahles, D. Giudici, K. Tanaka, S. Räty, R. Hidalgo, D.J. Werring, M. Göldlin, M. Arnold, C. Ferrari, S. Beyeler, C. Fung, B.J. Weder, T. Tatlisumak, S. Fenzl, B. Rezny-Kasprzak, A. Hakim, G. Salanti, C. Bassetti, J. Gralla, D.J. Seiffge, T. Horvath, and J. Dawson, for the ELAN Investigators*

ABSTRACT

BACKGROUND
The effect of early as compared with later initiation of direct oral anticoagulants (DOACs) in persons with atrial fibrillation who have had an acute ischemic stroke is unclear.

METHODS
We performed an investigator-initiated, open-label trial at 103 sites in 15 countries. Participants were randomly assigned in a 1:1 ratio to early anticoagulation (within 48 hours after a minor or moderate stroke or on day 6 or 7 after a major stroke) or later anticoagulation (day 3 or 4 after a minor stroke, day 6 or 7 after a moderate stroke, or day 12, 13, or 14 after a major stroke). Assessors were unaware of the trial-group assignments. The primary outcome was a composite of recurrent ischemic stroke, systemic embolism, major extracranial bleeding, symptomatic intracranial hemorrhage, or vascular death within 30 days after randomization. Secondary outcomes included the components of the composite primary outcome at 30 and 90 days.

RESULTS
Of 2013 participants (37% with minor stroke, 40% with moderate stroke, and 23% with major stroke), 1006 were assigned to early anticoagulation and 1007 to later anticoagulation. A primary-outcome event occurred in 29 participants (2.9%) in the early-treatment group and 41 participants (4.1%) in the later-treatment group (risk difference, –1.18 percentage points; 95% confidence interval [CI], –2.84 to 0.47) by 30 days. Recurrent ischemic stroke occurred in 14 participants (1.4%) in the early-treatment group and 25 participants (2.5%) in the later-treatment group (odds ratio, 0.57; 95% CI, 0.29 to 1.07) by 30 days and in 18 participants (1.9%) and 30 participants (3.1%), respectively, by 90 days (odds ratio, 0.60; 95% CI, 0.33 to 1.06). Symptomatic intracranial hemorrhage occurred in 2 participants (0.2%) in both groups by 30 days.

CONCLUSIONS
In this trial, the incidence of recurrent ischemic stroke, systemic embolism, major extracranial bleeding, symptomatic intracranial hemorrhage, or vascular death at 30 days was estimated to range from 2.8 percentage points lower to 0.5 percentage points higher (based on the 95% confidence interval) with early than with later use of DOACs. (Funded by the Swiss National Science Foundation and others; ELAN ClinicalTrials.gov number, NCT03148457.)

The authors' full names, acader grees, and affiliations are listed in pendix. Dr. Fischer can be conta urs.fischer@usb.ch or at the ment of Neurology, University H Basel, Petersgraben 4, CH-4031 Switzerland.

*A list of the ELAN Investigators vided in the Supplementary Ap available at NEJM.org.

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DOI: 10.1056/NEJMoa2303048

Bảng 8. Đề xuất thời gian khởi động kháng đông trên người bệnh đột quỵ thiếu máu não do rung nhĩ [6, 7]

Xác định được thể tích ổ nhồi máu trên MRI/ CT	Không xác định được thể tích ổ nhồi máu	Có chuyển dạng xuất huyết hoặc có xuất huyết não kèm theo
-TIA: khởi động càng sớm càng tốt, ngay sau biến cố. -Đột quỵ trung bình (≥ 2 cm^3 và < 30 cm^3): đánh giá chuyển dạng xuất huyết vào ngày thứ 6 và khởi động từ ngày ≥ 6 kể từ khởi bệnh. -Đột quỵ nặng (≥ 30 cm^3) : đánh giá chuyển dạng xuất huyết vào ngày thứ 12 và khởi động từ ngày ≥ 12 kể từ khởi bệnh.	-TIA: khởi động càng sớm càng tốt, ngay sau biến cố. -Đột quỵ trung bình (điểm NIHSS 8-16): đánh giá chuyển dạng xuất huyết vào ngày thứ 6 và khởi động từ ngày ≥ 6 kể từ khởi bệnh. - Đột quỵ nặng (điểm NIHSS > 16) : đánh giá chuyển dạng xuất huyết vào ngày thứ 12 và khởi động từ ngày ≥ 12 kể từ khởi bệnh.	-Chuyển dạng xuất huyết dạng chấm nhỏ hoặc rải rác (HI 1 hoặc HI 2): trì hoãn ít nhất 6 ngày, đánh giá lại tình trạng xuất huyết trước khởi động kháng đông. -Xuất huyết trong nhu mô độ 1 (khối xuất huyết chiếm <1/3 thể tích ổ nhồi máu): trì hoãn đến ngày thứ 12, đánh giá lại tình trạng xuất huyết trước khởi động kháng đông. - Xuất huyết trong nhu mô độ 2 (khối xuất huyết chiếm >1/3 thể tích ổ nhồi máu) hoặc xuất huyết ngoài ổ nhồi máu: trì hoãn đến ngày 12-28, đánh giá lại tình trạng xuất huyết trước khởi động kháng đông.

Smythe MA, Parker D, Garwood CL, Cuker A, Messé SR. Timing of Initiation of Oral Anticoagulation after Acute Ischemic Stroke in Patients with Atrial Fibrillation. Pharmacotherapy. 2020 Jan;40(1):55-71. doi: 10.1002/phar.2345. Epub 2019 Dec 4. PMID: 31698510.

CAN THIỆP HẸP ICA NGOÀI SỌ CÙNG BÊN THIẾU MÁU

1	B-R	4. In patients with recent TIA or ischemic stroke and ipsilateral moderate (50%–69%) carotid stenosis as documented by catheter-based imaging or noninvasive imaging, CEA is recommended to reduce the risk of future stroke, depending on patient-specific factors such as age, sex, and comorbidities, if the perioperative morbidity and mortality risk is estimated to be <6%.[369]
2a	B-R	5. In patients ≥70 years of age with stroke or TIA in whom carotid revascularization is being considered, it is reasonable to select CEA over CAS to reduce the periprocedural stroke rate.[371]
2a	B-R	6. In patients in whom revascularization is planned within 1 week of the index stroke, it is reasonable to choose CEA over CAS to reduce the periprocedural stroke rate.[372]

2a	C-LD	7. In patients with TIA or nondisabling stroke, when revascularization is indicated, it is reasonable to perform the procedure within 2 weeks of the index event rather than delay surgery to increase the likelihood of stroke-free outcome.[373]

1	A	1. In patients with a TIA or nondisabling ischemic stroke within the past 6 months and ipsilateral severe (70%–99%) carotid artery stenosis, carotid endarterectomy (CEA) is recommended to reduce the risk of future stroke, provided that perioperative morbidity and mortality risk is estimated to be <6%.[369]

AHA/ASA GUIDELINE

2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack

A Guideline From the American Heart Association/American Stroke Association

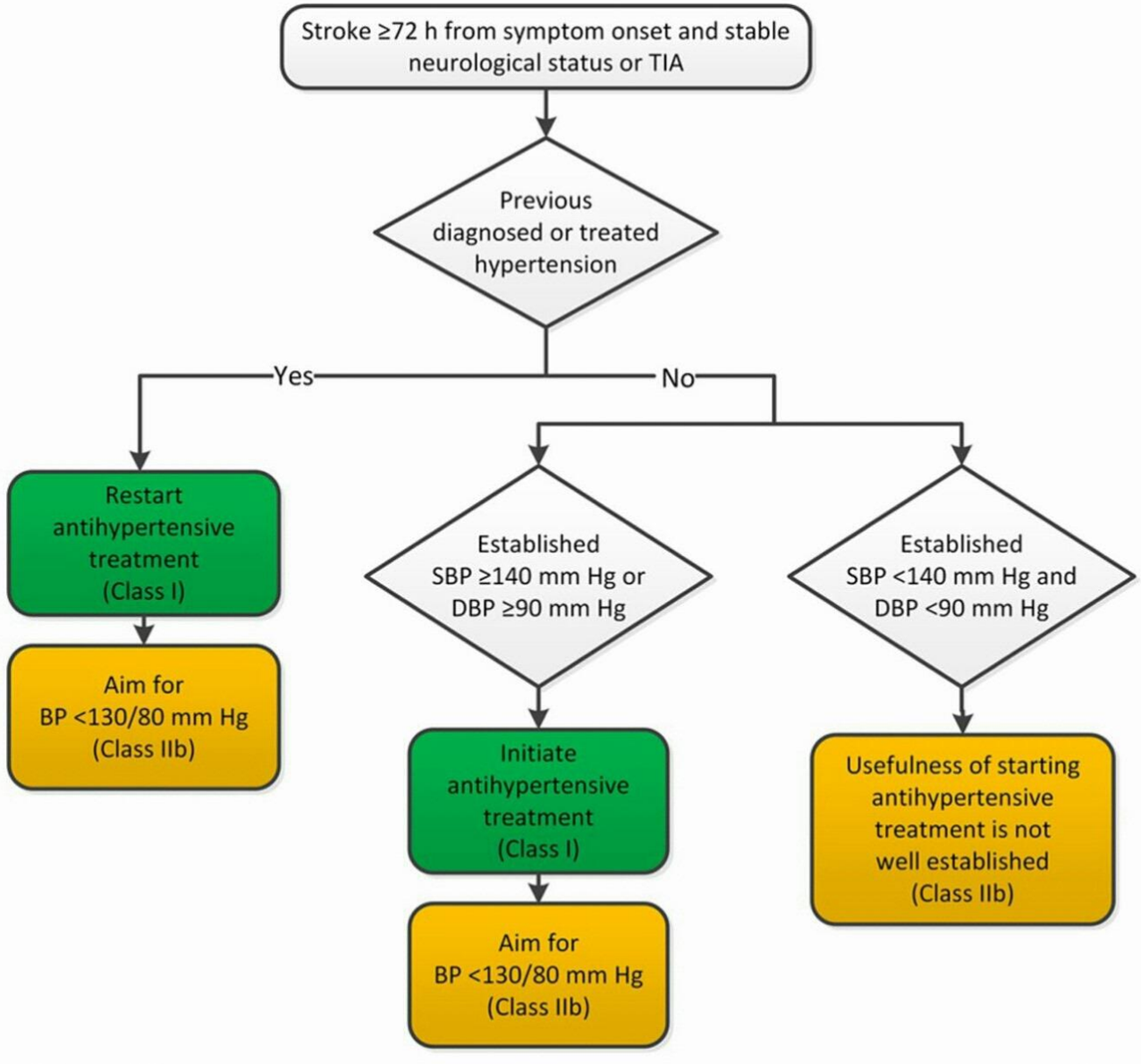
CHIẾN LƯỢC ĐIỀU TRỊ DỰ PHÒNG TÁI PHÁT

PHÒNG NGỪA THEO CĂN NGUYÊN

PHÒNG NGỪA THEO YẾU TỐ NGUY CƠ

KIỂM SOÁT HUYẾT ÁP

American Heart Association



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AHA/ASA GUIDELINE

2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack

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1	A	1. In patients with ischemic stroke with no known coronary heart disease, no major cardiac sources of embolism, and LDL cholesterol (LDL-C) >100 mg/dL, atorvastatin 80 mg daily is indicated to reduce risk of stroke recurrence.[208,209]
1	A	2. In patients with ischemic stroke or TIA and atherosclerotic disease (intracranial, carotid, aortic, or coronary), lipid-lowering therapy with a statin and also ezetimibe, if needed, to a goal LDL-C of <70 mg/dL is recommended to reduce the risk of major cardiovascular events.[210]
2a	B-NR	3. In patients with ischemic stroke who are very high risk (defined as stroke plus another major ASCVD or stroke plus multiple high-risk conditions), are taking maximally tolerated statin and ezetimibe therapy and still have an LDL-C >70 mg/dL, it is reasonable to treat with PCSK9 (proprotein convertase subtilisin/kexin type 9) inhibitor therapy to prevent ASCVD events.[211–213]

MỤC TIÊU KIỂM SOÁT LDL-CHOLESTEROL

MỤC TIÊU KIỂM SOÁT TRIGLYCERIDE MÁU

2a	B-R	1. In patients with ischemic stroke or TIA, with fasting triglycerides 135 to 499 mg/dL and LDL-C of 41 to 100 mg/dL, on moderate- or high-intensity statin therapy, with HbA1c <10%, and with no history of pancreatitis, AF, or severe heart failure, treatment with icosapent ethyl (IPE) 2 g twice a day is reasonable to reduce risk of recurrent stroke.[219,220]
2a	B-NR	2. In patients with severe hypertriglyceridemia (ie, fasting triglycerides ≥500 mg/dL [≥5.7 mmol/L]), it is reasonable to identify and address causes of hypertriglyceridemia and, if triglycerides are persistently elevated or increasing, to further reduce triglycerides in order to lower the risk of ASCVD events by implementation of a very low-fat diet, avoidance of refined carbohydrates and alcohol, consumption of omega-3 fatty acids, and, if necessary to prevent acute pancreatitis, fibrate therapy.[221–223]

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MỤC TIÊU KIỂM SOÁT CHOLESTEROL MÁU

5.1.3. Aortic Arch Atherosclerosis

Recommendations for Aortic Arch Atherosclerosis
Referenced studies that support recommendations are summarized in online to https://w…000000375.

COR	LOE	Recommendations
1	B-R	1. In patients with a stroke or TIA and evidence of an aortic arch atheroma, intensive lipid management to an LDL cholesterol target <70 mg/dL is recommended to prevent recurrent stroke.[210]
1	C-LD	2. In patients with a stroke or TIA and evidence of an aortic arch atheroma, antiplatelet therapy is recommended to prevent recurrent stroke.[380–385]

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1	A	4. In patients with stroke or TIA and hyperlipidemia, patients' adherence to changes in lifestyle and the effects of LDL-C–lowering medication should be assessed by measurement of fasting lipids and appropriate safety indicators 4 to 12 weeks after statin initiation or dose adjustment and every 3 to 12 months thereafter, based on need to assess adherence or safety.[214,215]

THEO DÕI MỤC TIÊU KIỂM SOÁT CHOLESTEROL MÁU

Glucose

AHA/ASA GUIDELINE

2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack

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1	A	1. In patients with an ischemic stroke or TIA who also have diabetes, the goal for glycemic control should be individualized based on the risk for adverse events, patient characteristics and preferences, and, for most patients, especially those <65 years of age and without life-limiting comorbid illness, achieving a goal of HbA1c ≤7% is recommended to reduce risk for microvascular complications.[229,230]
1	B-R	2. In patients with an ischemic stroke or TIA who also have diabetes, treatment of diabetes should include glucose-lowering agents with proven cardiovascular benefit to reduce the risk for future major adverse cardiovascular events (ie, stroke, MI, cardiovascular death).[231–236]
1	C-EO	3. In patients with an ischemic stroke or TIA who also have diabetes, multidimensional care (ie, lifestyle counseling, medical nutritional therapy, diabetes self-management education, support, and medication) is indicated to achieve glycemic goals and to improve stroke risk factors.

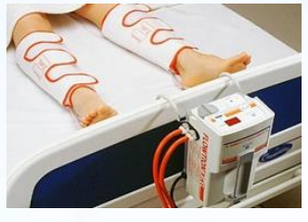
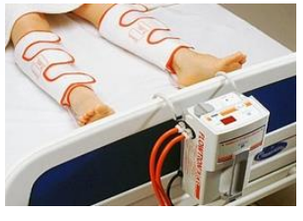
Other vascular risk factors

- Sleep apnea
- Obesity
- Cigarette smoking
- Physical inactivity (eg, sitting > 4 h/d)
- Lifestyle

MỘT SỐ TÌNH HUỐNG ĐẶC BIỆT

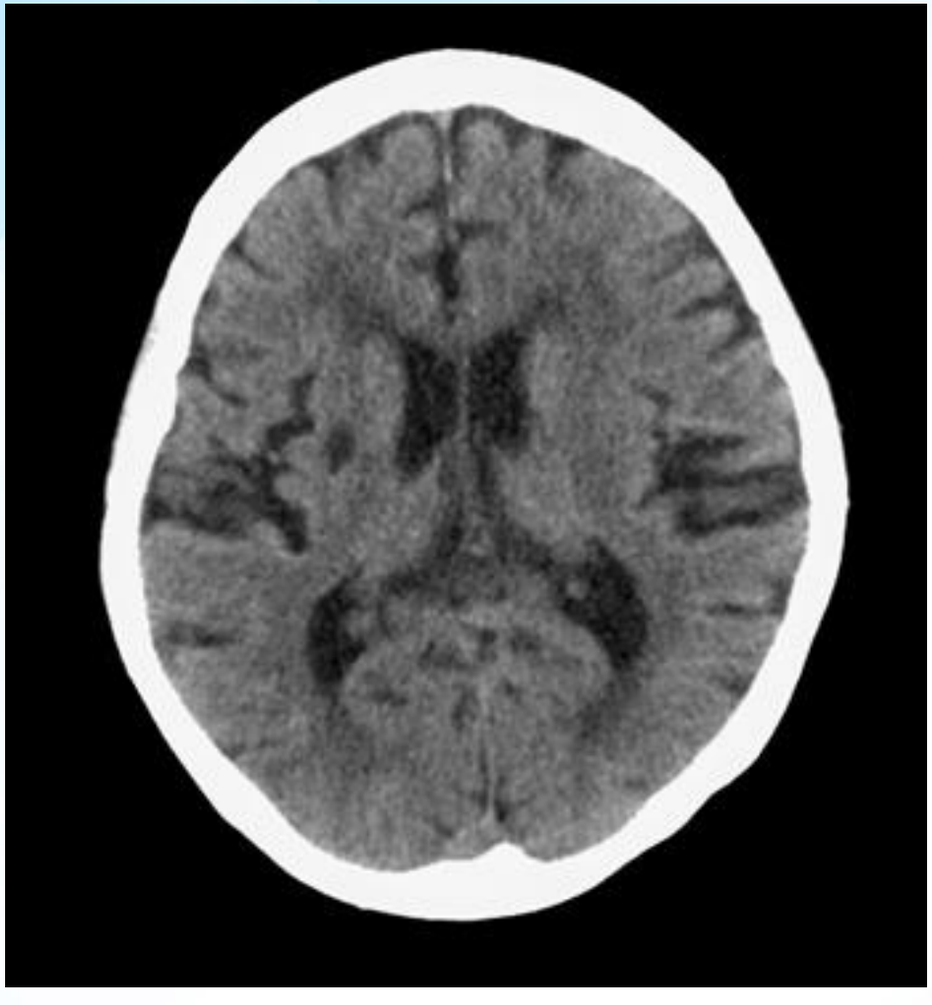
CÂN NHẮC KHÁNG TIỂU CẦU KÉP KHI CÓ CHỈ ĐỊNH DỰ PHÒNG VTE ĐỒNG THỜI

ĐỘT QUỴ THIẾU MÁU NÃO CẤP

- Sau điều trị tiêu sợi huyết
  - 
  - \+ Liều thấp của UFH hoặc LMWH (trì hoãn sau 24h)
- Không rTPA và không DAPT
  - 
  - \+ Liều thấp của UFH hoặc LMWH
- Đang được điều trị DAPT
  - 
- Đang dùng kháng động đường uống
  - 
  - \+ Nếu tạm ngưng KĐ
    - \+ Liều thấp của UFH hoặc LMWH
  - Vẫn dùng tiếp KĐ

ĐỘT QUỴ TÁI PHÁT KHI ĐANG ĐIỀU TRỊ KHÁNG TIỂU CẦU

- *Đánh giá việc tuân trị*
- *Đánh giá các thuốc dùng kèm (Vd: Omeprazole,…)*
- *Đánh giá lại căn nguyên đột quỵ và các yếu tố nguy cơ.*
- *Đánh giá khả năng đề kháng thuốc kháng tiểu cầu*
- *Chuyển đổi loại kháng tiểu cầu/ thêm loại thuốc kháng tiểu cầu nhóm khác/ chuyển đổi kháng đông???*



ĐỘT QUỴ LỖ KHUYẾT

- Hiện vẫn chưa có điều trị lý tưởng trong trường hợp người bệnh có rung nhĩ và Tăng huyết áp và có tổn thương nhồi máu dưới vỏ dạng lỗ khuyết.
- Hiện nay, kháng đông được khuyến cáo điều trị (WARFARIN hoặc DOACs).

Evans A, Perez I, Yu G, Kalra L. Should stroke subtype influence anticoagulation decisions to prevent recurrence in stroke patients with atrial fibrillation? Stroke 2001; 32:2828.

- The combination of oral anticoagulation (ie, warfarin or one of the newer agents) with antiplatelet therapy is not recommended for all patients after ischemic stroke or TIA but is reasonable in patients with clinically apparent CAD, particularly an acute coronary syndrome or stent placement (Class IIb; Level of Evidence C).

- For patients with ischemic stroke or TIA and AF who are unable to take oral anticoagulants, aspirin alone is recommended (Class I; Level of Evidence A). The addition of clopidogrel to aspirin therapy, compared with aspirin therapy alone, might be reasonable (Class IIb; Level of Evidence B).

KHÁNG ĐÔNG & KHÁNG KẾT TẬP TIỂU CẦU

Guidelines for thePrevention of Stroke in Patients with Stroke and TIA; American Heart Association/ American Stroke Association (2014)

- *Đánh giá lại căn nguyên đột quỵ.*
- *Dưới ngưỡng điều trị cần đánh giá trên người bệnh điều trị Warfarin; Quên liều thuốc trên người bệnh đang điều trị DOACs.*
- *Trên người bệnh có INR đạt ngưỡng điều trị khi dùng WARFARIN hoặc tuân thủ tốt DOACs, có khả năng đột quỵ tái phát không phải lấp mạch do tim (mạch máu nhỏ, xơ vữa động mạch lớn, ung thư,…).*

ĐỘT QUỴ KHI ĐANG ĐIỀU TRỊ KHÁNG ĐÔNG

Warren J Manning, MD . Stroke in patients with atrial fibrillation

- *WARFARIN: Khi INR < 2 -> điều chỉnh phù hợp đạt ngưỡng điều trị hoặc xem xét chuyển DOACs.*
- *WARFARIN: Khi INR đã đạt 2-3 -> TEE tầm soát huyết khối tiểu nhĩ trái. Tăng mục tiêu điều trị INR lên 2.5-3.5 hoặc cân nhắc chuyển sang dùng DOACs.*
- *DOACs: TEE tầm soát huyết khối tiểu nhĩ trái -> nếu có, đánh giá lại sự tuân thủ điều trị. Nếu người bệnh tuân thủ tốt -> cân nhắc đổi sang DOACs khác.*

ĐỘT QUỴ KHI ĐANG ĐIỀU TRỊ KHÁNG ĐÔNG

Warren J Manning, MD . Stroke in patients with atrial fibrillation

TAKE-HOME MESSAGES

- *Chẩn đoán xác định căn nguyên đột quỵ là cốt lõi cho chiến lược điều trị phòng ngừa tái phát.*
- *Kháng tiểu cầu kép được chỉ định trong những tình huống cụ thể, ngắn hạn, sau đó sẽ chuyển sang đơn trị liệu.*
- *Chỉ định kháng đông trong những tình huống cụ thể theo căn nguyên, và chọn thời điểm kháng đông là chiến lược cần cân nhắc thận trọng đảm bảo cân bằng lợi ích – rủi ro.*
- *Kiểm soát các yếu tố nguy cơ cần có mục tiêu cụ thể và thời gian theo dõi, duy trì kéo dài.*

Thank you for your attention!

Trân trọng cảm ơn!