Ischemic Heart Disease and Stroke Represent the First 2 Common Causes of Death in Egypt


IHD, Ischemic Stroke, and PAD are the major clinical manifestations of atherosclerosis

Ischemic Stroke, Or CAD
Ischemic Heart Disease (IHD)
Peripheral Arterial Diseases (PAD)

REACH Registry

One-Year Cardiovascular Event Rates in Outpatients With Atherothrombosis

Context Few data document current cardiovascular (CV) event rates in stable patients with atherothrombosis in a community setting. Differential event rates for patients with documented coronary artery disease (CAD), cerebrovascular disease (CVD), or peripheral arterial disease (PAD) or those at risk of these diseases have not been previously evaluated in a single international cohort.

International, prospective cohort, 2003-2004

68, 236 patients

with either established atherosclerotic arterial disease (CAD, PAD, CVD; n=55 814) or at least 3 risk factors for atherothrombosis (n=12 422), enrolled from 5587 physician practices, in 44 countries

REACH: The Reduction of Atherothrombosis for Continued Health
JAMA, 2007;297:1197-1206
REACH Registry inclusion criteria

Patients aged ≥45 years

At least 1 of four criteria

1. Documented cerebrovascular disease
   Ischemic stroke or TIA

2. Documented coronary disease
   Angina, MI, angioplasty/stent/bypass

3. Documented historical or current intermittent claudication associated with ABI <0.9

4. At least 3 atherothrombotic risk factors

1. Male aged ≥65 years
   or female aged ≥70 years

2. Current smoking >15 cigarettes/day

3. Type 1 or 2 diabetes

4. Hypercholesterolemia

5. Diabetic nephropathy

6. Hypertension

7. ABI <0.9 in either leg at rest

8. Asymptomatic carotid stenosis ≥70%

9. Presence of at least one carotid plaque

~25% of patients with CAD have athero-thrombotic disease in other arterial territories

Patients with CAD = 59.3% of the REACH Registry population

Multiple risk factors only population

~ 40% of patients with cerebrovascular disease have athero-thrombotic disease in other arterial territories

~ 60% of patients with PAD have athero-thrombotic disease in other arterial territories

Major CV event rates were doubled in patients with poly-vascular disease compared with patients with a single symptomatic arterial bed

One-Year CV Event Rates as a Function of Number of Symptomatic Disease Locations
JAMA. 2007;297:1197-1206

The incidences of CV death, MI, or stroke or of hospitalization for athero-thrombotic event(s) for CAD, CVD, and PAD patients with established disease

Breakdown of event rates

<table>
<thead>
<tr>
<th>Disease</th>
<th>Incidence (%)</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD</td>
<td>21.1%</td>
<td>1 in ~5</td>
</tr>
<tr>
<td>CAD</td>
<td>15.2%</td>
<td>1 in ~6</td>
</tr>
<tr>
<td>CVD</td>
<td>14.5%</td>
<td>1 in ~7</td>
</tr>
</tbody>
</table>

Steg PG et al, on behalf of the REACH Registry Investigators. JAMA 2007;297(11):1197-1206
What do studies in patients with atherothrombosis show about polyvascular disease?

DETECT: Nearly 50% of Ischemic Stroke Patients Had at Least One Other Form of Vascular Disease

- In the DETECT (Diabetes Cardiovascular Risk-Evaluation: Targets and Essential Data for Commitment of Treatment) survey, 753 patients admitted for IS were assessed for evidence of disease in other vascular beds*
- 358 of 753 (47.5%) had at least one other manifestation of atherothrombosis

* CAD, aortic atheroma, or PAD, as defined by history and assessment of other vascular beds
SCALA: The Prevalence of PAD in IS Patients

A study of 852 patients with TIA or ischemic stroke found 54.8% patients had a form of PAD. This included:

- 50.8% of the total population had an ABI ≤0.9
- 10.0% of the total population had intermittent claudication

ABI = Ankle-Brachial Index.
TIA is not a labeled indication in some countries.


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2017 ESC Guidelines on the Diagnosis and Treatment of Peripheral Arterial Diseases, in collaboration with the European Society for Vascular Surgery (ESVS)

Document covering atherosclerotic disease of extracranial carotid and vertebral, mesenteric, renal, upper and lower extremity arteries

Endorsed by: the European Stroke Organization (ESO)

The Task Force for the Diagnosis and Treatment of Peripheral Arterial Diseases of the European Society of Cardiology (ESC) and of the European Society for Vascular Surgery (ESVS)

Authors/Task Force Members: Victor Aboyans* (ESC Chairperson) (France), Jean-Baptiste Ricco** (Co-Chairperson) (France), Marie-Louise E. L. Bartelink (The Netherlands), Martin Björck† (Sweden), Marianne Brodman (Austria), Tina Cohnert‡ (Austria), Jean-Philippe Collet (France), Martin Czerny (Germany),

5. Antithrombotic drugs in peripheral arterial diseases

Key messages

- Antiplatelet therapy is indicated in all patients with carotid artery stenosis irrespective of clinical symptoms and revascularization. Dual antiplatelet therapy (DAPT) should be given for at least 1 month after CAS.
- Single antiplatelet therapy (SAPT) is indicated only if LEAD patients are asymptomatic or have undergone revascularization. Clopidogrel is the preferred antiplatelet drug in LEAD patients.
- Chronic anticoagulation therapy is given only if there is a concomitant indication and may be combined with SAPT when there is a recent revascularization procedure.

Antiplatelet therapy is part of BMT for symptomatic PADs (see chapter 4). The specific issues about CAD and LEAD are addressed here. The question of DAPT after endovascular therapy in other territories as well as the sensitive issue of PADs patients requiring anticoagulation [e.g. with concomitant atrial fibrillation (AF)] are also addressed.

LEAD: Lower Extremity artery disease


6.2.3 Management of vertebral artery disease

Although no prospective RCTs have evaluated different drug therapies in patients with vertebral artery disease, aspirin (or clopidogrel if aspirin is not tolerated) and statins are recommended irrespective of symptoms (see chapters 4 and 5). Most patients with asymptomatic vertebral artery disease do not require any revascularization.

**Recommendation for stable CAD**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clopidogrel (600mg loading dose, 75 mg daily dose) on top of aspirin is recommended in stable CAD patients undergoing coronary stent implantation and in ACS patients who cannot receive ticagrelor or prasugrel, including those with prior intracranial bleeding or indication for OAC.</td>
<td>I</td>
<td>A</td>
</tr>
<tr>
<td>Clopidogrel (300mg loading dose in patients aged ≤75, 75 mg daily dose) is recommended on top of aspirin in STEMI patients receiving thrombolysis.</td>
<td>I</td>
<td>A</td>
</tr>
</tbody>
</table>

Marco Valgimigli, Et al 2017 ESC focused update on dual antiplatelet therapy in coronary artery disease developed in collaboration with EACTS, European Heart Journal (2017) 0, 1–48
CONCLUSIONS

In patients with symptomatic peripheral artery disease, ticagrelor was not shown to be superior to clopidogrel for the reduction of cardiovascular events. Major bleeding occurred at similar rates among the patients in the two trial groups. (Funded by AstraZeneca; EUCLID ClinicalTrials.gov number, NCT01732822.)

2011 AHA/ASA Guidelines for the Prevention of Stroke in Patients With Stroke or Transient Ischemic Attack

Table 9. Recommendations for Antithrombotic Therapy for Noncardioembolic Stroke or TIA (Oral Anticoagulant and Antiplatelet Therapies)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Class/Level of Evidence*</th>
</tr>
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<tbody>
<tr>
<td>For patients with noncardioembolic ischemic stroke or TIA, the use of antiplatelet agents rather than oral anticoagulation is recommended to reduce risk of recurrent stroke and other cardiovascular events (Class I; Level of Evidence A).</td>
<td>Class I; Level A</td>
</tr>
<tr>
<td>Aspirin (300 mg/d to 325 mg/d) monotherapy (Class I; Level of Evidence A), the combination of aspirin 25 mg and extended-release dipyridamole 200 mg twice daily (Class I; Level of Evidence B), and clopidogrel 75 mg monotherapy (Class IIa; Level of Evidence B) are all acceptable options for initial therapy. The selection of an antiplatelet agent should be individualized on the basis of patient risk factor profiles, cost, tolerance, and other clinical characteristics.</td>
<td>Class I; Level A</td>
</tr>
<tr>
<td>The addition of aspirin to clopidogrel increases risk of hemorrhage and is not recommended for routine secondary prevention after ischemic stroke or TIA (Class IIa; Level of Evidence B).</td>
<td>Class IIa; Level C</td>
</tr>
<tr>
<td>For patients allergic to aspirin, clopidogrel is reasonable (Class IIa; Level of Evidence B).</td>
<td>Class IIa; Level C</td>
</tr>
<tr>
<td>For patients who have an ischemic stroke while taking aspirin, there is no evidence that increasing the dose of aspirin provides additional benefit. Although alternative antiplatelet agents are often considered, no single agent or combination has been studied in patients who have had an event while receiving aspirin (Class IIb; Level of Evidence C).</td>
<td>Class IIb; Level C</td>
</tr>
</tbody>
</table>

*See Tables 1 and 2 for explanation of class and level of evidence.

AHA: American heart association; ASA: American Stroke Association

Stroke. 2011; 42: 227-276
Newer P2Y12 inhibitors in patients with prior stroke or TIA

Prasugrel is contraindicated in patients with prior stroke/transient ischaemic attack (TIA) due to evidence of net harm in this group in TRITON-TIMI 38. In addition, the

Conclusion

- Clopidogrel is P2Y12 inhibitor of choice in patients received lytic therapy
- Clopidogrel is P2Y12 inhibitor of choice in patients with LEAD
- Clopidogrel is P2Y12 inhibitor of choice in patients with CAS
- Clopidogrel is P2Y12 inhibitor of choice in patients with stable CAD undergoing PCI
- Clopidogrel is P2Y12 inhibitor of choice in patients received triple therapy
- Clopidogrel Has convenient once daily dosing, and is generally well tolerated

LEAD: Low extremity arterial disease  CAS : Carotid artery stenting  CAD : Coronary artery Disease

2: Valgimigli M, et al. 2017 ESC focused update on dual antiplatelet therapy in coronary artery disease developed in collaboration with EACTS. European Heart Journal (2017) 0, 1–4
Thank you