Screening for abdominal aortic aneurysms is considered to be rational, screening for carotid stenosis not. Why?

Kosmas I. Paraskevas, MD

ABSTRACT

Background: **Stroke is a leading cause of death and disability worldwide. Each year in the United States about 795,000 patients suffer a stroke, while in Europe there are 1,400,000 strokes/year. Despite that international guidelines do not recommend screening for ACS.**

Methods: **We searched the literature to identify the reasons why screening for ACS is not recommended.**

Results: **The rationale for not recommending screening includes: i) the harm associated with screening, ii) the questionable clinical benefit associated with surgery, iii) the lack of proven reduction in stroke risk and iv) the large number of false negative/false positive tests. A critical analysis of each of these arguments is presented. Detection of ACS should not be viewed as an indication for surgery, but rather as an opportunity to implement best medical treatment and lifestyle changes to prevent not only strokes, but also myocardial infarctions.**

Conclusions: **According to our analysis, screening for ACS may need to be recommended for specific high-risk patient subgroups (e.g. males >70 years with a history of smoking).**

BACKGROUND

Approximately **15%** of all first-ever strokes occur due to atheroembolism from a previously undetected or untreated asymptomatic carotid stenosis (ACS). Despite that, international guidelines **do not recommend screening for ACS.**

PURPOSE

To identify the reasons for not recommending screening for ACS, at least for specific high-risk patient subgroups

METHODS

Review of the literature in search for the rationale based on which screening for ACS is not recommended.

Comparison of screening for ACS with screening for abdominal aortic aneurysms (AAAs).

Why is screening for AAAs recommended strongly for males >65 years with a history of smoking while screening for ACS is not?

RESULTS

The main reason for the discrepancy in the recommendations between the 2 conditions is the belief that detection of ACS will translate into offering a carotid intervention.

This rationale is misguided. Detection of a 4-cm AAA should not be managed with an operation, but conservatively. Why should detection of a 50% ACS translate into an indication for surgery?

RESULTS

The rationale for not recommending screening for ACS includes:

a) The harm associated with screening

One drawback associated with screening is that patients may be offered an unnecessary procedure. This perception is wrong as most asymptomatic patients will never experience symptoms.

The same however, applies to AAAs. Most AAAs will never reach the threshold for repair and will never require surgery.

b) The questionable clinical benefit of surgery

Based on improvements in BMT, it has been argued that BMT alone is adequate for the management of all asymptomatic patients,

The 2018 ESVS guidelines identify specific asymptomatic patient subgroups at high risk for future stroke, for whom a prophylactic carotid endarterectomy should be considered.

RESULTS

c) The lack of proven reduction in stroke risk

In 1998 there were 770,000 strokes in the U.S.

The latest data from 2016 (n=795,000) suggest that the number of strokes has not reduced over 20 years despite the vast improvements in BMT. It is perhaps time to modify our approach to reduce the number of strokes.

d) The large number of false (+) / false (–) tests

One of the arguments against screening for ACS is the large number of false positive/false negative scans.

The fundamental error in this argument is that a patient with a positive carotid scan should not be offered an intervention based only on the results of the ultrasound scan.

CONCLUSION

- **Screening for ACS should be considered for specific high-risk patient subgroups**
- **Screening should be viewed as an opportunity for implementation of BMT, not surgery**

DISCLOSURES

None.