



## Questions

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### Q1 Covert Brain Infarction Discovered in Emergency Department CT Scans

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Most patients with covert brain infarctions discovered after CT of the head in the emergency department are informed of these findings.

- 1. True
- 2. False

**Educational Point:** Covert brain infarctions are focal lesions detected on brain imaging consistent with ischemia in the absence of a history of overt stroke or neurologic dysfunction. They are the most common incidental finding on brain imaging, with a prevalence of 10% to 30% in elderly populations. Covert brain infarctions are associated with an increased risk of future stroke. Stroke prevention interventions such as further diagnostic testing and risk factor modification are indicated in these patients according to the current guidelines. Evidence regarding covert brain infarction in emergency department (ED) patients is limited. The goal of this study was to determine the prevalence of covert brain infarction in patients undergoing computed tomography (CT) in the ED who were subsequently discharged and to determine how often clinicians act on these findings or make patients aware of them.

The authors conducted a retrospective chart review of patients presenting to the ED of an urban academic medical center. Patients aged more than 50 years were identified who underwent CT of the head and were seen and discharged from the ED from January to September 2018. Patients with a history of stroke, or prior brain imaging with ischemia, were excluded. Patient data and clinician response (patient notification, neurology referral, and risk factor modification) were collected. The authors included 832 patients, with an average age of 62 years, and 50% of the patients were women. Covert brain infarctions were present in 11% of patients (n=95). **Only 9% of patients with covert brain infarctions were clearly made aware of the finding.** Of the patients with covert brain infarctions, 27% were already on aspirin and 28% on a statin. Aspirin was added for 2 patients, and statin medication was not started on any patient. The blood pressure medication was added or adjusted for 2 patients with covert brain infarctions. The neurology department was consulted for 9% of the patients with covert brain infarctions.

The authors concluded that covert brain infarction is a common incidental finding in an elderly ED population. They noted however that this is often not conveyed to the patient, and primary stroke prevention strategies are rarely implemented. Because the covert brain infarction can have significant clinical consequences, this finding, at minimum, should be treated like other incidental findings and communicated to the patient.

*The correct answer is 2.*

**Reference:** Balderston JR, Brown CK, Feeser VR, Gertz ZM. Covert Brain Infarction in Emergency Department Patients: Prevalence, Clinical Correlates, and Treatment Opportunities. *Ann Emerg Med.* 2022 Mar;79(3):265-269.

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