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Simultaneous Parenchymal Haemorrhage and Infarction in a Patient with Atrial Fibrillation: The Yin and Yang of Anticoagulation

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Abstract

Simultaneous occurrence of both spontaneous intracerebral haemorrhage and ischaemic stroke has been very rarely reported in the literature. In this paper, we present an extreme case of a cardioembolic stroke and warfarin-related intracerebral haemorrhage in an elderly patient with atrial fibrillation.

Case Report

Here, we present an extreme case of a cardioembolic stroke and warfarin-related intracerebral haemorrhage in an elderly patient with atrial fibrillation.

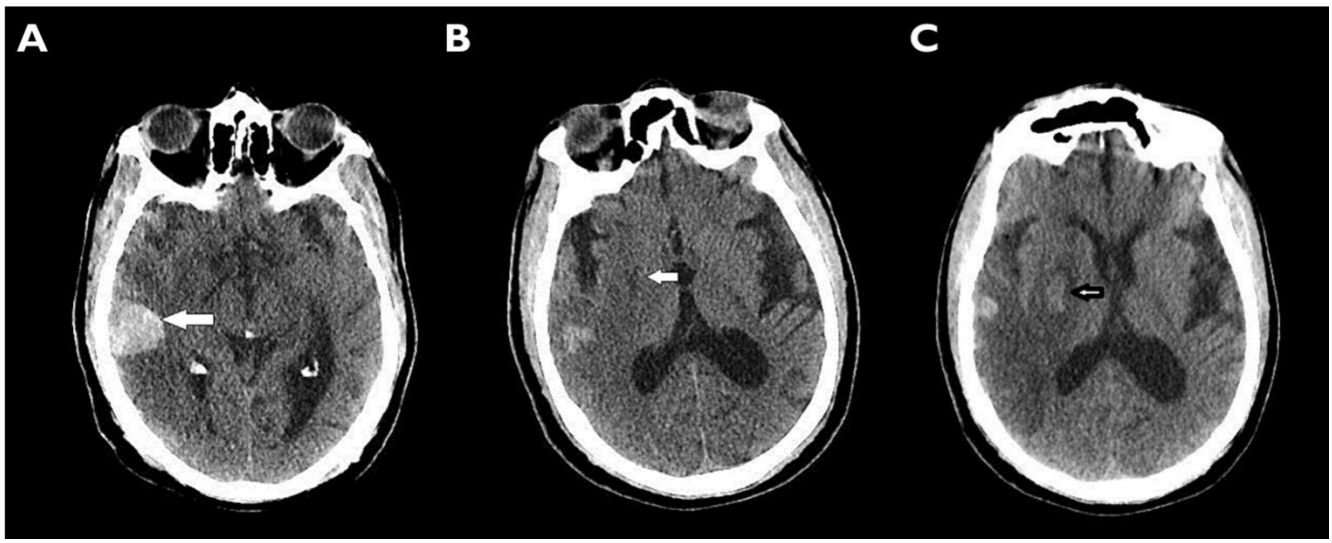
A 75-year old right-handed male patient presented with a 12-hour history of sudden collapse and loss of consciousness. He was a known hypertensive for 10 years and was being managed for ischemic heart disease and non-valvular atrial fibrillation. He had a previous history of two cardioembolic strokes and was taking warfarin, clopidogrel and aspirin, as well as statins, losartan and carvedilol. However, the patient was omitting his regular outpatient medical appointments. On examination the blood pressure was 190/90mmHg, the pulse rate of 60/min and irregular. The patient had a Glasgow coma scale (GCS) of 5 and features of upper motor neuron lesion on the left upper and lower limbs with a conjugate eye deviation to the right. Routine laboratory blood investigations were normal. The international normalized ratio was 3.1, the prothrombin time was 18.6 sec (against a normal of 15 seconds) while activated partial thromboplastic time was within the normal range. An urgent brain CT revealed a dual stroke: a right temporal intracerebral haemorrhage and a sub-acute capsular infarct in the same arterial territory. The patient was assessed by a multidisciplinary team. He developed fever on the second day of admission (39-42^{0}C) and despite treatment with intravenous ceftriaxone (2g daily), the patient with GCS dropping to 3 by the fourth day. A repeat CT scan showed haemorrhagic transformation of the initial infarct and the patient died five days after admission.

Discussion

Simultaneous occurrence of both haemorrhagic and ischaemic stroke is very rare [1,2]. Our patient

suffered an anticoagulation-related intracerebral haemorrhage and also a capsular infarct with haemorrhagic transformation four days post-admission, probably of cardioembolic origin due to atrial fibrillation. This case highlights in an extreme way a common dilemma in stroke medicine: balancing the risks and benefits of anticoagulation in elderly patients with atrial fibrillation, previous ischaemic stroke and multiple risk factors. The careful assessment of ischaemic stroke risk versus anticoagulation-related intracerebral haemorrhage is difficult, since paradoxically many of the known factors that increase ischaemic stroke risk overlap with bleeding risk factors in patients with atrial fibrillation[3]. This is illustrated in the current schemes for the assessment of ischaemic stroke (CHA2DS2-VASc) and bleeding risk (HAS-BLED) advocated in the new European guidelines for the management of atrial fibrillation[4]: prior stroke, older age (≥75 years) and hypertension (all present in our patient) are strong risk factors for both ischaemic stroke and anticoagulation-associated ICH in patients with atrial fibrillation.

Figure



A. Brain CT scan at presentation showing a right temporal lobe intracerebral haemorrhage and a right sub-acute capsular infarct (B). (C) CT scan done on the fourth day of admission demonstrating haemorrhagic transformation of the previously infarcted area.

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Conflict of interest: None declared

Ethical standard: This study has been approved by the appropriate ethics committee and has therefore been performed in the accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. Patient gave informed consent.