Although the precise cause of this lesion remains unknown we suspect that it may be a part of the process of bone resorption and deposition in myotonic dystrophy.

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The frequency, characteristics and prognosis of epileptic seizures at the onset of stroke

Sir: The report by Shinton *et al*¹ of a high mortality over the first two days after admission in stroke with epileptic seizures at onset, prompted us to analyse our results in a series of 412 patients with acute stroke studied prospectively between January 1986 and March 1988 by means of a stroke data bank.² All patients underwent cranial computed tomography (CT). Transient ischaemic attacks were excluded. There were 267 males and 145 females with a median age of 65 years. Atherothrombotic cerebral infarct was diagnosed in 271 cases, cardioembolic infarcts in 63 and intracerebral haemorrhage in 66. In the remained 12 cases, all with ischaemic strokes, the cause could not be established. Subarachnoid haemorrhages were sent to another hospital and have not been included. Age, sex, hypertension, diabetes, alcohol consumption (> 80 g/day), previous stroke or TIA events, heart diseases, neurological signs and symptoms at admission, vascular territory (carotid or vertebrobasilar), type of stroke, CT results, neurological deterioration, hospital

Table 1 Results of univariate analysis

	Cases without seizures (n = 389)	Cases with seizures (n = 23)	p value
Mortality	46 (11.8)\$	7 (30.4)	0.023
Headache	66 (17.0)	10 (43.5)	0.003
Loss of conscience	97 (24.9)	13 (56.5)	0.002
Neurologic deterioration	40 (10.3)	7 (30.4)	0.008
Extension of CT lesions			
0	192 (49.4)	1 (4.3)	
1	109 (28.0)	12 (52.2)	
2	61 (15.7)	6 (26.1)	
3	27 (6.9)	4 (17.4)	0.0004
Type of stroke			
Atherothrombotic	259 (68.5)	12 (54.5)	
Cardioembolic	58 (15.3)	5 (22.7)	
Cerebral hemorrhage	61 (16.1)	5 (22.7)	NS
Age	65.1 ± 11x	64.8 ± 15	NS
Hospital stay			
Survivors	13.3 ± 9	14.4 ± 9	NS
Deceased	9.8 ± 11	6.3 ± 6	NS

\$: number (%); x: media ± SD

Table 2 Multiple logistic regression. Dependent variable: mortality

	Beta	T	p value
Neurologic deterioration	0.38704	9.044	< 0.0001
Loss of conscience	0.26232	6.141	< 0.0001
Age	0.12003	2.925	< 0.005
Extension of CT lesions	0.08576	2.051	< 0.05
Epileptic seizures at onset	0.01411	0.335	NS
Headache	0.01174	0.282	NS

stay, in-hospital mortality and morbidity at discharge were analysed. Extension of CT lesions were graded as 0: normal CT or deep lesions, 1: lesion limited to one lobe, 2: two lobes affected, 3: three lobes affected. Neurological deterioration was considered when impairment of level of conscience or signs of transtentorial brain herniation appeared after admission.

Twenty-three patients (5.6%) suffered epileptic seizures at onset or within 48 hours after stroke. Chi-square test with Yates correction showed a significant relation between seizures and in-hospital mortality, headache, loss of conscience, extension of the cerebral infarction or haemorrhage and neurological deterioration. Age and hospital stay were similar in both groups (Mann-Whitney-Wilcoxon rank test) (table 1).

Significant variables in univariate analysis plus age were evaluated using stepwise multiple logistic regression to clarify which factors were simultaneously influencing mortality. Only age, loss of conscience, neurological deterioration after admission, and CT lesion score were on significant limits. Epileptic seizures at onset and headache were not significant (table 2).

Our data suggest that epileptic seizures are present frequently in patients with a large infarct or haemorrhage that involves cortical and subcortical regions and produce loss of conscience or neurological deterioration after admission. These factors are predictors of a poorer prognosis but not epileptic seizures by themselves.

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