



## Case Report

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# Problem of the etiological diagnosis of a hemorrhagic stroke in cases of co-morbidity of ulcerative colitis, hepatitis C virus, arterial hypertension and blood coagulation disorder: Case report

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## Abstract

Hemorrhagic stroke is a public health priority that is underestimated both in terms of morbidity and mortality and in terms of medico-economic costs and the burden of care for the health system. It remains unrecognized by both the public and health professionals. The presence of several possible causes in a patient puts the clinician in a perplexed state. We discuss in this article the etiologies of a hemorrhagic stroke in a patient with a history of hemorrhagic ulcerative colitis, hepatitis C virus. Hospitalized in the Neurological clinic of Fann National Teaching Hospital in Dakar-Senegal for hemorrhagic stroke in a context of high blood pressure and bleeding disorder made of a hemorrhagic syndrome. The patient was treated symptomatically with antihypertensive drugs, physiotherapy; its vital prognosis was good and he is still followed in the service.

**Keywords:** Hemorrhagic stroke, ulcerative colitis, Hepatitis C virus, Hypertension, Blood crude disorder.

## INTRODUCTION

Stroke is characterized by any clinical abnormality resulting either from the sudden interruption of blood supply to a cerebral territory related to occlusion by thrombosis or embolism, or following rupture of an arterial vessel Because of an aneurysm for example, causing the death of cells and tissues in the territory of the brain that has been affected [1].

Stroke is the leading cause of acquired adult disability, the second leading cause of dementia (after Alzheimer's disease, 30% of dementias are wholly or partly due to stroke) and the third leading cause of death in France. This pathology constitutes a public health priority that is underestimated both in terms of morbidity and mortality, and in terms of medico-economic costs and the burden of care for the health system. It remains unrecognized by both the public and health professionals. Its biomedical research is very insufficient in view of the stakes [2].

Hemorrhagic strokes account for 10 to 15% of all strokes, i.e. 10 to 20 cases per 100,000 inhabitants [3].

75% of hemorrhagic strokes (15% of total strokes) are intracerebral hemorrhage and in 25% it's an aneurysm rupture [4].

The comorbidity of pathologies in the same subject poses etiological diagnostic accountability problems.

We discuss in this article the etiologies of a hemorrhagic stroke in a patient with a history of hemorrhagic ulcerative colitis, hepatitis C virus, hospitalized in the Neurological clinic of the Fann National Teaching Hospital in Dakar-Senegal for hemorrhagic stroke in a context of high blood pressure and coagulation disorders made of a hemorrhagic syndrome.

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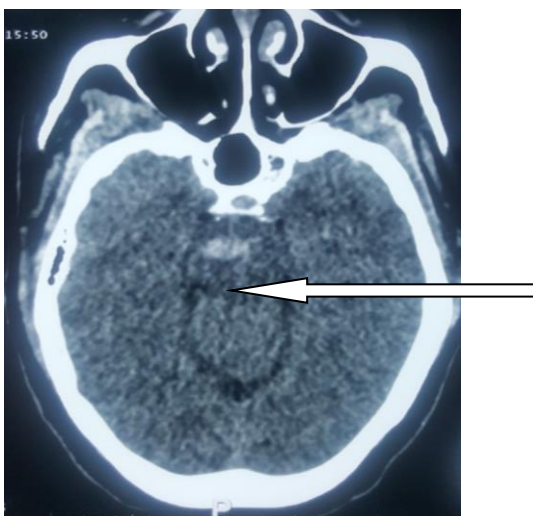
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## CASE REPORT

Mrs. N.D.T, aged 58, widow and right-handed laterality, Senegalese residing in Mbour. Was admitted on February<sup>20<sup>th</sup></sup> 2017 at the Neurological Clinic of the Fann National Teaching Hospital in Dakar-Senegal for a motor deficit of the left side and a speech disorder dysarthria type of sudden onset after a fall from his own height without secondary trauma or loss of consciousness. This picture evolved in a context of rectal bleeding in the last ten days. It was noted in her history that she was hypertensive, carrying the hepatitis C virus, and was followed in the department of gastroenterology of the Artistide le Dantec Hospital in Dakar since 2004 for a chronic inflammatory colitis evolving by pushes and remissions for which she was under treatment with Salazopyrin and Mesalazine.

The examination at admission showed a fairly good general condition with colored and anicrous mucous membranes, blood pressure at 179/120 mmHg, body temperature at 37,40 C, respiratory rate at 18 cycles / minute, Heart rate to 84 beats / minute, a patient awake and cooperating performing simple commands. There was a motor deficit of the left hemi body with a global muscular strength rated at 0/5 on the upper and lower ipsilateral limbs and hypotonia of the left hemi body and a sign of Babinski on the left. Abolition of the nausea reflex was noted. At the rectal touch the fingers came back stained with stools tinted with blood of average abundance. Thus, the diagnosis of a stroke was evoked. For this, a cerebral scan (Fig) was requested and which had objectified a spontaneous hyper density in the brain stem, which led us to retain the hypothesis of a hemorrhagic stroke. A biological assessment carried out showed a TCK = 46 " for a normal value between 29 " - 40 ". The platelets were at 427000 elements / mm<sup>3</sup>. The determination of coagulation factors as well as anti-platelet antibodies was not performed. The other biological balances showed CRP at 11.25mg/l, a sedimentation rate at 58mm and 100mm at the first and second hour respectively and a ferritin rate in blood at 495.5 µg / l for a normal value between 4.6 and 204. Colposcopy revealed an appearance of *rectitis* and erosive erythematous and congestive erosive *sigmoiditis* compatible with ulcerative colitis. Angiography was not performed. She had received symptomatic treatment with antihypertensive drugs and motor rehabilitation. Its vital prognosis has been good and is being monitored jointly to this day in the Departments of Neurology and Gastroenterology.

## Iconography



**Figure 1:** CT brain, axial cut, showing spontaneous hyper density in the brain stem.

## Etiological discussion

Hypertension was evoked in the presence of a history of high blood

pressure, with blood pressure figures showing severe hypertension at the time of hemorrhagic stroke (179/120 mmHg) and poor adherence to therapeutics. In a study by Sloan MA *et al.*, It was shown that most intracranial hemorrhage occurred in the first 24 hours, 60% within the first 6 hours in poorly controlled acute hypertension with high mortality around 36-58% of cases [5].

The patient's prognosis was good. This would be related to the small volume of the hematoma and its age. In the work of Hemphill 3rd JC *et al.* [6], three factors most commonly associated with poor neurological prognosis have been described, including hematoma volume, presence of ventricular hemorrhage and altered consciousness, and the fact that the prognostic value of the volume of the hemorrhage taken in isolation was not surprising and derived from the pressure-volume relationship within the cranial box, but also from the age. In elderly subjects, cortical atrophy would allow tolerance of relatively large hemorrhages unlike a young subject who might not tolerate hemorrhage of much lower volume. In a study by Fogelholm R *et al.* [7], one- and five-year survival was approximately 42 and 27%, respectively. No studies on post-stroke survival in our environment have been found. A study on a long series would allow us to know the reality in our environments.

For his part, Prince Eliot Sounga Bandzouzi *et al.* [8], in a study on the epidemioclinic, evolutionary and paraclinic aspects of the hemorrhagic stroke of the elderly in Dakar, showed that the mean age was 65 years and that the risk factor was " Hypertension in 91.5%, of the cases. This places our patient within the range of the literature.

The coagulation disorder was evoked before the hemorrhagic syndrome and the prolongation of the TCK (46 "). But the dosage of factors of coagulation was not done.

In addition, some authors, including Nagamine T *et al.* [9], and Bauduer F *et al.* [10] showed frequent thrombocytopenia in patients chronically infected with hepatitis C virus (HCV), which may be due to a number of mechanisms including peripheral disease (hypersplenism, autoimmune platelet antibody thrombocytopenia Or anti-phospholipid antibodies, HCV RNA in platelets), or central involvement (HCV RNA in megakaryocytes, malignant lymphoproliferation, decreased hepatic production of thrombopoietin). Thus, during immunological thrombocytopenic purpura the presence of HCV antibodies was found in 10 to 19% of patients. Conversely, thrombocytopenia was found in 41% of patients with chronic hepatitis C versus 19% in patients infected with hepatitis B virus. This reality contrasts with the normality of platelets in our patient. In addition, vasculitis (periarteritis nodosa, cerebral aneurysms) in HCV-infected patients has been described, with the possibility of giving a table of hemorrhagic stroke, hence the interest of making a cerebral angiogram in our Patient to shed light on the etiology [11, 12].

The incidence of hemorrhagic stroke increases with age, especially after age 55 but there are also genetic factors and our patient is in the age range. It has been described by some authors that in black or Japanese subjects its incidence was about double that of the rest of the population [13]. Genetic factors were clearly identified. O'Donnell *et al.* [14] showed that the presence of  $\epsilon$  2 and  $\epsilon$  4 alleles on the genes coding for apolipoprotein E was associated with a three-fold greater risk of hemorrhagic recurrence after hemorrhagic stroke.

In a cohort study, Emmanuel Cognat *et al.*, (December 2011) showed that IBD accounts for 2-3% of causes, which is in accordance with the 1-6% found in the ISCVT registry [15, 16]. He showed that his results were not statistically significant different either in the location of thrombosis, with the SSS (superior sagittal sinus) and the LS (lateral sinus) most frequently involved, nor in the frequency and type of brain lesions, present in three-quarters of these cases, including haemorrhagic lesions in half of his patient with CVT [15]. Acute

spontaneous cerebral haemorrhage has also been described by Muhammad Adrish and Ryan Rios <sup>[17]</sup>.

During the past decades, a number of studies have assessed the association of IBD with stroke risk <sup>[18, 19]</sup> however; the role of IBD in stroke is still controversial. For the moment, the mechanisms underlying the increase of consequent stroke events in IBD patients are not well understood <sup>[17]</sup>.

## CONCLUSION

Hemorrhagic stroke is still a real problem in our community. In addition to the patient's prognosis, the identification of the etiology still poses problems, especially in the case of co-morbidity of pathologies, especially in environments where exploration assessments are still limited.

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