Importance of anamnesis evaluation in the correct diagnosis of Cerebral Cavernous Malformations

Gavino Cossu
Paolo Brama
Claudio Bondi
Daniela Trebbi

Emergency Department, Tarquinia Hospital, Tarquinia, (VT), Italy

Corresponding Author:
Gavino Cossu
Emergency Department, Tarquinia Hospital
Viale Igea 1
01016 Tarquinia (VT), Italy
E-mail: gcossu@inwind.it

Abstract

The Cerebral Cavernous Malformations are insidious diseases; they can remain asymptomatic for a long time, the symptoms are often blurred, the overt manifestations can be severe and dangerous (cerebral haemorrhage). The anamnesis and its revaluation prove still to be cornerstones of the diagnostic, more for diseases with indistinct symptoms that might otherwise be ignored. The Authors in this article demonstrate how the careful anamnesis revaluation, followed by the radiological examinations of the case, allowed the identification of a cerebral cavernous malformation; they conclude that it surely has allowed to speed up the clinical care path of the patient and to provide a correct indication for the resolution of the disease.

KEY WORDS: anamnesis, cerebral cavernoma, CT scan, dizziness, MRI.

Introduction

The Cerebral Cavernous Malformations, also called cerebral cavernous angiomas or cavernomas, are vascular defects localized mainly in the central nervous system. The lesion is characterized by dilation of capillaries collected in balls and devoid of nervous parenchyma. They represent 5-15% of all vascular malformations of the central nervous system and their prevalence in the general population is estimated, as a result of autopsy studies and Magnetic Resonance Imaging (MRI), in about the 0.1-0.5% (1). The cavernomas are dynamic lesions that may appear or regress over the years (2, 3).

This disease may occur sporadically or family (4). The sporadic forms usually occur with single lesions, while the family ones show multiple lesions whose number is correlated to the age of the patient (5). The cavernomas are transmitted as an autosomal dominant Mendelian character (6) with variable expressivity and incomplete penetrance. In a proportion of cases, not yet well-known, mutations have a new origin because the parents are not carriers of the mutation. The transmission of the mutation does not automatically imply the development of specific lesions; these can arise at different ages or remain absent for a lifetime. The clinical severity is variable and age dependent, being essentially conditioned by the size, the location and the age of onset of lesions.

The most cerebral cavernomas are cortical or sub-cortical and are located around the fissure of Rolando. In about 25% of cases the location is cerebellar or in the brainstem, where the most common site is the Pons. The cavernomas can remain asymptomatic for a long time; depending on the location, they can cause focal or secondarily generalized epileptic crisis, cerebral hemorrhages, focal neurological deficits or recurrent headache (7). The most common supratentorial cavernomas (76-87%) cause seizures, focal neurologic deficits (diplopia, dizziness and instability, dysarthria, etc.), headache, evident bleeding. The subtentorial cavernomas are less common (13-24% of the total); they are associated with focal neurologic deficits and headache.

The MRI is the essential tool for the diagnosis, classification, follow-up and evaluation of the progression of lesions before an eventual surgery (8). The CT scan is the investigation of choice in emergency-urgent conditions (acute hemorrhage, hydrocephalus, poor cooperation of the patient, early postoperative control). The treatment of choice is basically dictated by the risk/benefit ratio and is based on location of the lesion, symptoms, age and the patient’s clinical condition. Possible treatments are clinical-radiological monitoring, neurosurgery and radiosurgery (9-12). It is responsibility of the neurosurgeon to determine the most suitable individual treatment.

Clinical case

M. M., 69-year-old female, hospitalized at our Short Recovery Unit for ventricular extrasystoles. A more careful anamnesis revaluation emphasized some sporadic episodes of dizziness and postural instability; the neurological examination was negative. For this reason, was performed Brain CT scan which showed...
“hyperdense area in the left temporal cortex of 10 mm (small outbreak hemorrhagic? AV malformation?). ... Omission ... Recommended control.” (Figure 1). Another CT scan, performed after 24 hours, indicated “Substantially unchanged is the hyperdense area in the left temporo-insular cortex of 10 mm, worthy of control and diagnostic investigation with MRI.” (Figure 2).

An MRI was then performed. The exam showed “a small vascular abnormality, compatible with cavernoma, near a cerebral sulcus close to the left Sylvian fissure. Coexist signs of modest recent spat blood neighboring alteration described.” (Figures 3-5).

The patient was finally entrusted to neurosurgeons for the most appropriate treatment.

Conclusions

The anamnestic and its revaluation are fundamental hinges for the proper diagnostic approach to a patient, and may limit the number of diseases that otherwise would remain unrecognized or recognized late. They are an always used professional background and repeatable on the same patient which allows you to speed up its assistance process until the problem is resolved. The reported case represents a good example: the anamnestic detection of mild focal neurological symptoms such as dizziness and postural instability has allowed the authors to express, with the help of the MRI, a diagnosis of cerebral cavernoma and to provide a correct therapeutic indication.
References