TREATMENT OF ASYMPTOMATIC CEREBRAL CAVERNOUS MALFORMATIONS: THE PROPOSAL TO ESTABLISH A STANDARDISED INTERNATIONAL PROSPECTIVE REGISTRY

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The management of cerebrovascular disease and in particular the indications for surgery has deeply changed in the last 20 years. Continuous changes over time are quite usual in medical field and for this reason any surgeon or medical doctor knows that if we consider to perform a "preventive" treatment in pathologies still asymptomatic, the risk of the treatment and even the indication of the treatment could change in the future.
NMR screenings show an high prevalence of cerebral cavernous malformations (CCM) in the general population (0.3%-0.5%). However only approximately 30% of people with CCM will eventually develop clinical symptoms, including headaches, focal neurological deficits, seizure, and fatal intracerebral hemorrhage (ICH).
Also "de novo" lesions are often described and seem to be more frequent than once we thought. This raises further doubts: ccm are congenital or acquired lesions ? and moreover after removal, there could be a recurrence at the same site or at different sites?
Until now what we thought to be the best treatment for ccm was surgery, but the increasing time of follow up for patients treated with stereotactic radiosurgery (SRS) shows good results. In the future some scientists advocate a medical treatment in order to prevent bleeding and neurological deterioration.
Unlike other neurovascular pathologies, such as intracranial aneurysms and Brain Arterio-Venous Malformations, CCM treatments have not been compared with each other or with conservative management in a randomised controlled trial.
The risk of prospective hemorrhage in patients presenting asymptomatically seem to be very low, about 0.08% per patient-year.
A recent metanalysis shows ~6% risk of death or non-haemorrhagic focal neurological deficit after neurosurgical excision or SRS over 2–3 years of follow-up, this appears to compare unfavourably with the risk of first-ever ICH from a CCM that has never bled.
We performed a 4 prospective study in the Neurosurgical Departments of Torino and Brescia, Italy, collecting all the patients treated for asymptomatic CCM in a 4 years period.
In this period we operated on 306 asymptomatic CCM and we prospectically observed 471 cases for an average of 2.6 ys.
The perioperative outcome was unfavorable in 3 cases out of 306 with occurrence of neurological deficit or seizures after surgery. Only one patients out of 471 cases observed had an intracerebral hematoma due to CCM bleeding; he was operated on with a good neurological outcome.

Standardised international prospective registries and randomized controlled trials could help determine which treatment strategies are most effective, and for whom.