Cerebral arteriovenous malformation case reports

A case of delayed, definitive endovascular treatment for ruptured bAVM in a 21-year-old female, 3 mo post-ictus. The bAVM, with a left pericallosal feeding artery and cortical draining veins, was successfully obliterated through embolization using the Onyx 18. On follow-up, the patient has recommenced her daily activities and experiences only mild occasional headaches with mild motor deficits. The report leads to a review of an important issue regarding the optimal timing of ruptured bAVM definitive management and brings forward the current evidence available on delayed vs immediate definitive bAVM intervention. They also highlight current issues that need to be addressed for clearer guidelines on definitive therapy initiation.

Current treatment paradigms of ruptured bAVM remain elusive, with substantial heterogeneity in the current literature. A consensus on the definition of “acute” vs “delayed”, management goal, follow-up length, and outcome parameters are required to support the formation of a clear paradigm [1)]

A case of concurrent AVM with the involvement of dural arteries and Moyamoya syndrome. Given the infrequency of this combination, there is currently no established management strategy available. (2) Case Description: A 49-year-old male patient with multiple symptoms including headaches, tinnitus, and visual impairment diagnosed with the coexistence of an arteriovenous malformation with the involvement of dural arteries and moyamoya syndrome was admitted to the national Tertiary Hospital. The patient underwent surgical management through embolization of the AVM from the afferents of the dural arteries, which resulted in positive clinical outcomes. However, this approach may not be suitable for all cases, and a multidisciplinary team approach may be required to develop an individualized treatment strategy. (3) Conclusion: The contradictory nature of the treatment approaches in cases of combined AVM with the involvement of dural arteries and MMD highlights the complex nature of this condition and the need for further research to identify the most effective treatment strategies [2)].

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Bhanot et al. presented a patient with intraparenchymal hemorrhage due to cerebral arteriovenous malformation (AVM) who exhibited acute ST segment myocardial infarction (STEMI) after neurosurgery. Serial cardiac biomarkers and echocardiograms were performed which did not reveal any evidence of acute myocardial infarction. The patient was managed conservatively from cardiac stand point with no employment of anticoagulants, antiplatelet therapy, fibrinolytic agents, or angioplasty and recovered well with minimal neurological deficit. This case highlights that diffuse cardiac ischemic signs on the ECG can occur in the setting of an ICH after neurosurgery, potentially posing a difficult diagnostic and management conundrum [3)].

1)

Bintang AK, Bahar A, Akbar M, Soraya GV, Gunawan A, Hammado N, Rachman ME, Ulhaq ZS. Delayed versus immediate intervention of ruptured brain arteriovenous malformations: A case report. World J Clin Cases. 2023 Mar 26;11(9):1992-2001. doi: 10.12998/wjcc.v11.i9.1992. PMID: 36998967; PMCID: PMC10044944.

2)

Nurimanov C, Mammadinova I, Makhambetov Y, Akshulakov S. An Uncommon Case of Moyamoya Syndrome Is Accompanied by an Arteriovenous Malformation with the Involvement of Dural Arteries. Int J Mol Sci. 2023 Mar 21;24(6):5911. doi: 10.3390/ijms24065911. PMID: 36982983; PMCID: PMC10056675.

3)

Bhanot RD, Kaur J, Sriwastawa S, Bell K, Suchdev K. Postoperative 'STEMI' in Intracerebral Hemorrhage due to Arteriovenous Malformation: A Case Report and Review of Literature. Case Rep Crit Care. 2019 Apr 22;2019:9048239. doi: 10.1155/2019/9048239. PMID: 31231576; PMCID: PMC6507120.