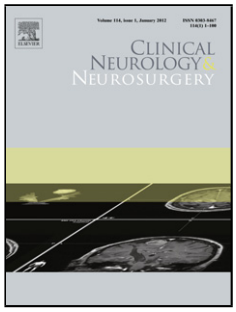

Title: Intraventricular hemorrhage related to AVM rupture: description, outcomes and impact of intraventricular fibrinolysis

Authors: Vianney Gilard, Thomas Metayer, Clement Gakuba, Olivier Langlois, François Proust, Evelyne Emery, Thomas Gaberel

PII: S0303-8467(17)30335-9
DOI: https://doi.org/10.1016/j.clineuro.2017.11.019
Reference: CLINEU 4844

To appear in: *Clinical Neurology and Neurosurgery*

Received date: 13-9-2017
Revised date: 17-11-2017
Accepted date: 29-11-2017

Please cite this article as: Gilard Vianney, Metayer Thomas, Gakuba Clement, Langlois Olivier, Proust François, Emery Evelyne, Gaberel Thomas.Intraventricular hemorrhage related to AVM rupture: description, outcomes and impact of intraventricular fibrinolysis.*Clinical Neurology and Neurosurgery* https://doi.org/10.1016/j.clineuro.2017.11.019

Elsevier Editorial System(tm) for Clinical Neurology and Neurosurgery

Manuscript Draft

Manuscript Number: CNN-D-17-921R1

Title: Intraventricular hemorrhage related to AVM rupture: description, outcomes and impact of intraventricular fibrinolysis

Article Type: Full Length Article

Keywords: Intraventricular hemorrhage; Fibrinolysis; intracranial aneurysm; arteriovenous malformation.

Corresponding Author: Mr. Vianney Gilard, MD

Corresponding Author's Institution: Rouen University hospital

First Author: Vianney Gilard, MD

Order of Authors: Vianney Gilard, MD; Thomas Metayer, MD; Clément Gakuba, MD, PhD; Olivier Langlois, MD; François Proust, MD, PhD; Evelyne Emery, MD, PhD; Thomas Gaberel, MD, PhD

Abstract: Objectives: Arteriovenous malformation (AVM) rupture could lead to intraventricular hemorrhage (IVH), a particularly severe form of intracranial bleeding. The epidemiology, presentation, management and outcomes of IVH related to AVM rupture have not been clearly addressed yet. The aim of the present study was to investigate the characteristics of IVH related to AVM rupture, with particular attention paid to functional outcomes and to the impact of intraventricular fibrinolysis (IVF).
Patients and Methods: Between 2011 and 2015, all patients suffering from IVH admitted in two tertiary neurosurgical centers were included in a prospective register. Patient with IVH related to AVM rupture were identified (n=29) and their data retrospectively collected. Particular attention was paid on patients who received IVF. We also compared them to 29 apparied aneurysmal IVH.
Results: IVH related to AVM rupture often occurred in young patients. In most cases, intracerebral hemorrhage was associated to IVH. 17% of the patients died, and functional outcome at 6 months was similar to those with aneurysmal IVH, with a mean modified Rankin scale of 2.5. Interestingly, 5 patients received IVF and none experienced any rebleeding.
Conclusion: IVH related to AVM rupture is a severe form of hemorrhagic stroke, with a poor neurologic prognosis. IVF seems to be safe and may be considered in this particular form of IVH.

Suggested Reviewers: