



USE OF MILRINONE IN THE TREATMENT OF DELAYED CEREBRAL ISCHEMIA DUE TO REFRACTORY VASOSPASM: A Tertiary Academic Hospital Experience

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INTRODUCTION

Delayed cerebral ischemia (DCI) secondary to cerebral vasospasm (VS) and rebleeding are main causes of mortality and morbidity after aneurysmal subarachnoid hemorrhage (aSAH). DCI can be treated by clinical or interventional measures.

The use of milrinone, an inotropic and vasodilator agent, is described as one option to treat VS in patients with refractory symptoms.

OBJECTIVE

Our aim is to describe the experience of our neurocritical care service with the use of milrinone, in accordance with the Montreal Protocol for patients with refractory VS.

METHOD

A retrospective study based on data from medical records of patients with aSAH and refractory VS treated with milrinone from February 2015 to February 2016.

RESULTS

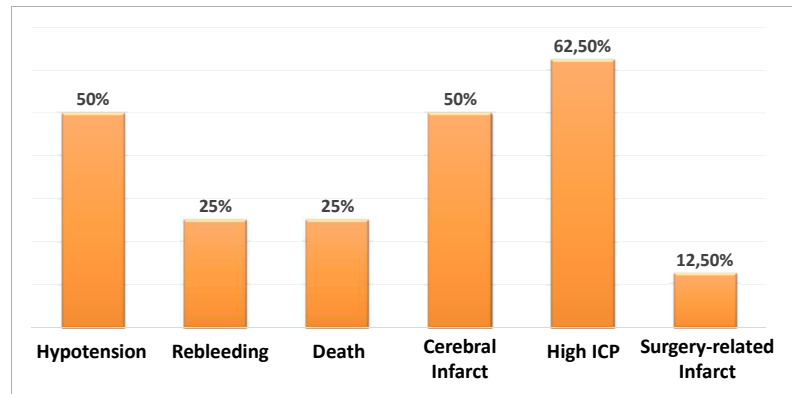
From 50 aSAH patients admitted to our Neurointensive Care Unit during the study period, 8 were identified with refractory VS.

All patients treated with milrinone were female and the mean age was 48.3 years (Median: 48,5).

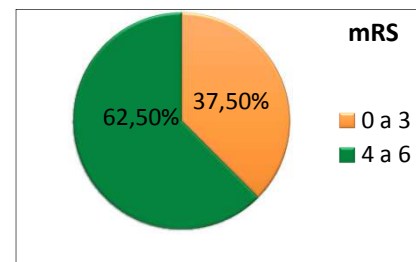
62% of patients had Hunt-Hess scale scores between 1-3 and 75% scored 3 or 4 in Fisher-modified scale.

Graph 1. Medical complications in patients suffering from aSAH and refractory VS treated with milrinone, from February 2015 to February 2016. All rebleeding cases occurred before aneurysm treatment and symptomatic VS.

* High ICP, Intracranial Hypertension; VS, vasospasm.



Graph 2. Functional outcome accessed by the modified Rankin scale (mRS) in patients suffering from aSAH and refractory vasospasm treated with milrinone.



VS was identified after an average of 8.7 days after aSAH and its duration was 8.5 days (Median: 7).

Medical complications observed in these patients and functional outcomes are presented in Graphs 1 and 2. The most common adverse event related to the use of milrinone was arterial hypotension (50%).

DISCUSSION

Cerebral VS is a common complication and an important clinical predictor of outcome in aSAH.

The efficacy and safety of using milrinone has been demonstrated in case series such as the Montreal Neurological Hospital Protocol.

In our service, a favorable outcome was observed in 37% of the cases treated with milrinone and its use was well tolerated. Cardiac arrhythmias or other adverse effects that could lead to drug suspension were not observed.

CONCLUSION

The use of milrinone seems to be a safe option in the treatment of DCI and refractory VS in services where the availability of endovascular treatment is not routine.

Scan here to access
References, Poster
PDF, Milrinone
Protocol and Author's
contact.



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MILRINONE PROTOCOL

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