ejpmr, 2024, 11(2), 514-516

SJIF Impact Factor 6.222

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Study

ISSN 2394-3211

EJPMR

MIDDLE MENINGEAL ARTERY EMBOLIZATION A TREATMENT OPTION OF CHRONIC SUBDUAL HAEMATOMA: A CASE REPORT

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Article Received on 19/12/2023 **Article Revised on 09/01/2024** **Article Accepted on 30/01/2024**

ABSTRACT

Middle meningeal artery embolization facilitates resolution and prevents reaccumulation of chronic subdural hematoma and is more effective than conventional treatment without increasing treatment-related complications.

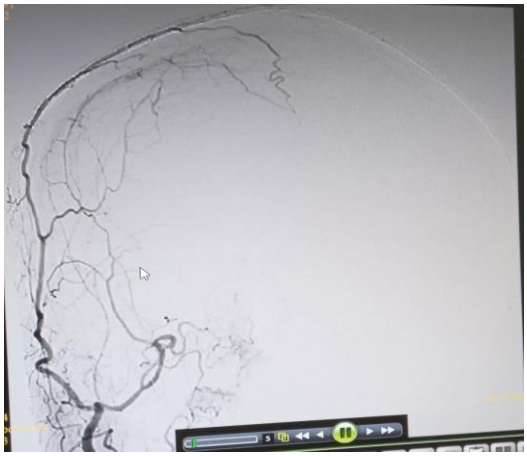
KEYWORDS: MMA middle meningeal artery.

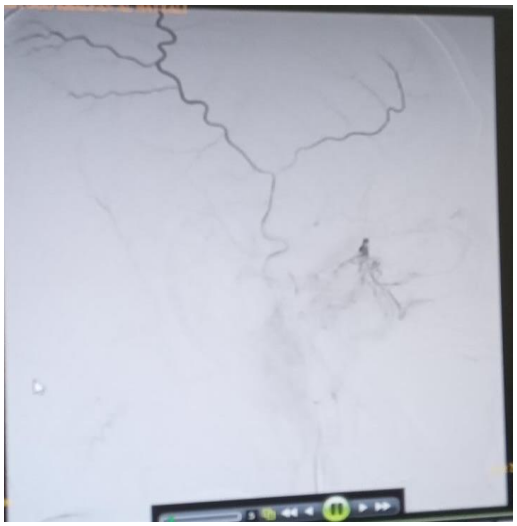
INTRODUCTION

Background and purpose Embolization of the middle meningeal artery (MMA) has recently been proposed as an alternative to surgery for treatment of chronic subdural hematoma (SDH), and several case reports have been published supporting its efficacy. It has been suggested that the primary pathologic process in chronic SDH is repeated microhemorrhaging into the subdural collection from fragile neovasculature within the SDH membrane that arises from distal branches of the MMA. Embolization could thus provide a means of eliminating this chronic rebleeding.

CASE REPORT

A 78 yr old patient with multiple comorbidites viz diabetes, hypertension, IHD was admitted in our hospital with headache. On examination no gross deficit was seen. Patient underwent CT brain which revealed bilateral chronic subdural haematoma with no gross pressure effects. Patient was not considered for surgical evacuation in view of his comorbidites. Patient was referred to our intervention radiology team for middle meningeal artery embolisation. Patient underwent the middle meningeal artery embolisation. Postprocedure period satisfactory. Patient was discharged home. On follow up OPD visit patient was conscious oriented without any deficit. CT brain was done which revealed complete resolution of chronic subdural haeamtoma. Images are as below.





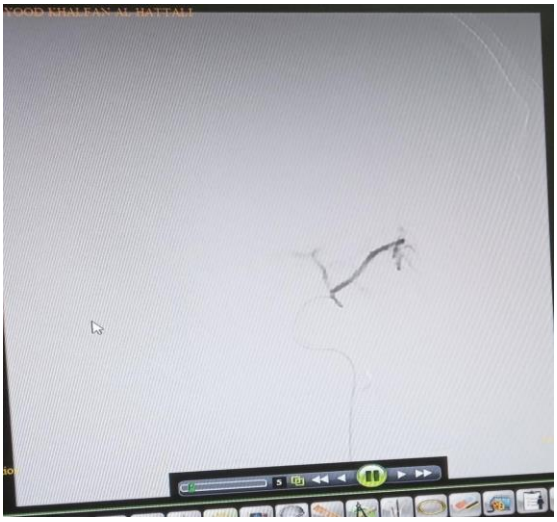


Fig 1: Middle meningeal artery anatomy before and after embolization.

Fig 2: CT brain showing chronic subdural haemorrhage.

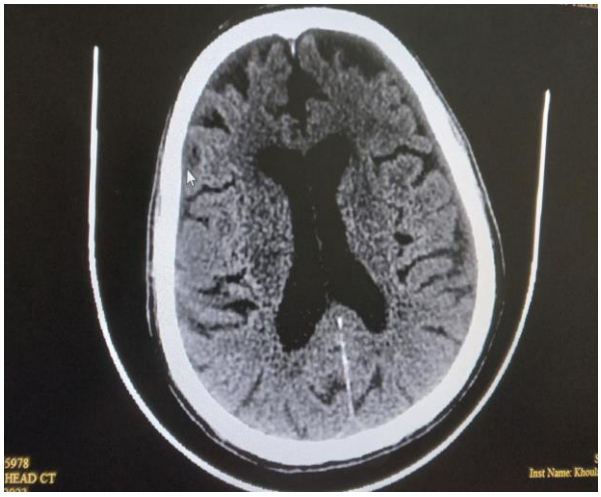


Fig 3: CT Brain Showing Total Resolution of Chronic Subdural Haemorrhage After MMA Embolization.

DISCUSSION

Juan Carlos in 2023 gave his experience of Middle Meningeal Artery Embolization for Chronic Subdural Hematomas With Concurrent Antithrombotics. 1 In 2023 Desir LL elaborated his experience of Middle Meningeal Artery Embolization in the Management of Chronic Subdural Hematoma with comprehensive Review of Current Literature. 2 Thomas W Link in 2018 gave his experience of Middle meningeal artery embolization for chronic subdural hematomawith endovascular technique and radiographic findings. 3 Link TW in 2019 described Middle Meningeal Artery Embolization for Chronic Subdural Hematoma: A Series of 60 Cases. 4 Mureb MC in 2020 described DynaCT Enhancement of Subdural Membranes after Middle Meningeal Artery Embolizationand and discussed insights into Pathophysiology of chronic subdural haematoma.

CONCLUSION

MMA embolization may provide a safe alternative for treatment of chronic SDH, but careful angiographic assessment of MMA anatomy should be performed to avoid potential complications. The findings illustrated here lend support to the theory that the pathologic process of chronic SDH is repeated leakage of blood products from an inflamed, abnormal arterial neovasculature within the SDH membrane that arises from the MMA, and thus selective embolization could provide an effective treatment.

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