

Low rate of complications and need for surgery following MMA embolization in high-risk cSDH patients with early antiplatelet/anticoagulant reintroduction. A monocentric prospective registry.

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PURPOSE - Middle meningeal artery (MMA) embolization in the management of chronic subdural hematoma (cSDH) has been an exciting trending topic in our field for the last few years. Its exact place remains to be unraveled but growing evidence points at the efficiency and safety of this procedure aiming to modify pressure regiment within the dural vascular plexus and thus favoring subdural collection resorption. So far, we limited MMA embolization to patients at high risk of pejorative evolution or recurrence, in addition to surgery if significantly symptomatic, or to recurring subdural collection.

MATERIAL AND METHOD – From November 2021 to May 2024, we performed 34 MMA embolization in 29 patients (sex ratio 1,42 - median age 72 years). These patients were deemed at high risk due to necessary single (37,9%) or double antiplatelet therapy (24,1%), anticoagulant therapy (37,9%) and/or constitutional or acquired coagulopathy (13,8%). Symptomatic recurrent SDH (26,5%) were also considered for embolization, even in absence of previously detailed features.

Procedures were preferentially performed under general anesthesia (62,1%) and femoral approach (96,6%). Embolization using both microparticles and coil(s) was the most prevalent technique (50%). When microparticles were used, alone or associated with coiling, 100-300 μ microparticles were preferred in most cases (80,6%).

MMA embolization was performed in association with surgical management in 35,3% of cases (from 7 days prior, to 5 days after embolization).

RESULTS – MMA embolization, alone or in association with surgical management when required, allowed early and safe reintroduction of necessary antiplatelet and/or anticoagulant therapy. Antiplatelet therapy wasn't discontinued in 17,6% of cases. If discontinued, it was re-introduced between day 0 and day 10 (median at day 2). Anticoagulation wasn't discontinued in 30% of cases. If discontinued, it was re-introduced between day 0 and day 46 (median at day 6,5).

MMA embolization, even in this population, has a low yield of complications. We observed one angiographic complication (transient duro-dural fistula) and 3 transient

clinical complications:

- two patients (6,9%) suffered from ipsilateral headaches that were efficiently controlled by WHO step 1 analgesics ;
- one patient (3,4%) presented late-onset (48h after the procedure) CN VI palsy. Clinical evolution was favorable under tapered corticosteroids regiment.

No vascular access complication was noted.

Only one SDH (2,9%) required subsequent surgery on day 55. There was otherwise no progression nor recurrence.

CONCLUSION – MMA embolization is a safe and effective procedure in high-risk patients, alone or associated with surgery if deemed necessary after pluridisciplinary concertation. No definitive, clinically relevant complication was noted and subsequent surgery was required in only 2,9% of cases.