

biomechanical properties. However, integrating them into clinical practice to identify a challenging occlusion prior to clot retrieval is not well established.

Methods A modified DELPHI technique was used before and during CLOT SUMMIT 7.0, which included experts in thrombectomy and clot research from different specialties. Panelists answered three iterative question rounds, in which they indicated their certainty level on the association of 30 specific clot features as indicators for difficult-to-recanalize target occlusions. The features were grouped into 5 domains: histological, imaging, biomechanical, procedural, and clinical factors. The first round included open-ended questions and formed the basis for subsequent rounds, in which closed ended questions were used. Consensus was defined as $\geq 50\%$ agreement among the panelists. Certainty was rated from 1 ('very uncertain') to 4 ('very certain') in the final round, and mean levels of 3.0 or greater were regarded as high certainty.

Results A total of 3 DELPHI rounds were performed, the last two in a live setting. Consensus was reached on 16 out of 30 questions, of which 8 were of high certainty (23%). Except for the clinical factors domain, all others had at least one clot feature with consensus and high certainty. Of those, the biomechanical domain produced the most clot features with consensus and high certainty (75%) while the imaging domain produced the least (8.3%). The 8 clot features were combined to produce a holistic definition of a challenging clot: A white coloured or calcified clot that's stiff, hard, sticky or adherent, that could be calcified on imaging, and during thrombectomy is difficult to pass and resistant to pulling. There was also consensus but with less certainty (2.6/4) that the endovascular (EVT) technique should be switched after the third unsuccessful attempt.

Conclusions A live DELPHI consensus from experts in thrombectomy and clot research suggest the features of a challenging clot, which most aptly describe a tough clot: A white coloured or calcified clot that's stiff, hard, sticky or adherent, that could be calcified on imaging, and during thrombectomy is difficult to pass and resistant to pulling. This may help clinicians and researchers focus on using and developing specialized tools for a priori identification of tough clots for swift recanalization.

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ENDOVASCULAR TREATMENT OF CEREBRAL VASOSPASM WITH INTRAARTERIAL INJECTION OF VERAPAMIL AND NIMODIPINE. SINGLE CENTER EXPERIENCE

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The purpose of our research was to compare the course structural epilepsy, which is both the only manifestation of malformation and the debut of the disease in combination with intracerebral hemorrhage in patients (pts) with arteriovenous malformations (AVM) after endovascular and combined treatment using the Engel scale. The study is retrospective, non-randomized.

Material and Methods The study included patients with confirmed cerebral AVM by cerebral angiography data with

Abstract E-137 Table 1

Method of treatment	Only seizures (n=119)	Seizures with hemorrhage (n=31)
EVE	65 (43,3%)	12 (8%)
EVE + MS	29 (19,3%)	13 (8,7%)
EVE + SRS	25 (16,7%)	6 (4%)

concomitant epileptic seizures (both the only manifestation of the malformation and in combination with hemorrhage at the onset of the disease). The study took into account demographic characteristics (gender, age), AVM localization. Complications (mortality, disability) were assessed at each stage of treatment. The follow-up period average 3.5 years (range 1 to 7 years). All patients underwent endovascular embolization (EVE) at the first stage. In order to achieve total exclusion of the AVM from the bloodstream, in the absence of afferents available for embolization, further microsurgical (MS) or radiation (SRS) treatment was performed.

Results A total of 301 patients with cerebral arteriovenous malformations with concomitant epileptic seizures were treated. Of these, 246 pts (81,7%) had only seizure and 55 pts (18,3%) had a combined type (hemorrhage and seizures at the onset of the disease). The gender distribution was as follows: 169 men's and 132 women's, average age 37 years (from 6 to 69 years). According to the Spitzler Martin gradation, the distribution of patients was as follows: I - 11 (3,7%) pts, II - 63 (20,9%), III - 126 (41,9%), IV - 68 (22,6%), V - 33 (10,9%). Out of 301 pts, 150 (49,8%) achieved total exclusion of the AVM, subtotal (90% or more) in 23 pts (7,6%), partial - 128 pts (46,6%). The distribution by treatment methods in total obliterated AVMs was as follows: EVE + MS 42 pts (28%); EVE+SRS 31 pts (20,7%); EVE 77 pts (51,3%). The distribution of patients according to the Engel scale (class 1) in patients with epileptic and combined (hemorrhage and epileptic seizures) type of malformation course after total shutdown is presented in the table below:

From 2009 to 2022 years, 301 pts with cerebral AVMs and seizures were treated. Complications were received: 1 death (0,3%), 2 pts (0,6%) with severe neurological deficit and 12 pts (3,9%) with incomplete recovery after surgery. Control over seizures is directly proportional to the volume of the malformation turned off.

Conclusion The treatment of structural epilepsy in patients with cerebral AVMs should include all available surgical methods to freedom from seizures in order to improve the quality of life of patients. The method of endovascular embolization is minimally invasive and effective method of treatment in the control of seizures in patients with AVM.

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INTRA-ARTERIAL THERAPY FOR CEREBRAL VASOSPASM AND DELAYED CEREBRAL ISCHEMIA AFTER SUBARACHNOID HEMORRHAGE AND ITS IMPACT ON REFRACTORY VASOSPASM

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