2. Streszczenie w języku angielskim

Evaluation of the necessity of Dandy's dural tenting sutures in elective supratentorial craniotomies

In the early days of neurosurgery, extradural hematoma (EDH) contributed to a high mortality rate after craniotomies. Almost a century ago, Walter Dandy introduced dural tenting sutures as an effective method to prevent postoperative EDH. Over time, his technique gained popularity and significance, ultimately becoming a neurosurgical standard.

However, several retrospective and prospective reports have questioned the ongoing necessity of dural tenting sutures. Today, advancements in anesthesiology—such as maintaining normovolemia and normotension—allow for real-time evaluation of hemostasis.

The studies conducted as part of this publication series aimed to assess the safety of omitting Dandy's sutures in the context of the risk of clinically significant EDH. The objectives of the research were as follows: 1. planning a systematic review to evaluate the necessity of dural tenting sutures; 2. designing a clinical trial to assess the need of prophylactic dural tenting sutures during elective supratentorial craniotomies; 3. surveying Polish neurosurgeons to examine current practices, including dural tenting techniques; 4. conducting a randomized clinical trial to determine whether omitting prophylactic dural tenting is non-inferior to routine use in preventing clinically significant postoperative EDH in adult patients undergoing elective supratentorial craniotomy.

The first study presented the protocol of a systematic review, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, with the goal of evaluating the continued need for dural tenting.

The second study detailed a randomized, multicenter, investigator- and participant-blinded, parallel-group non-inferiority trial.

The third study examined perioperative practice patterns among Polish neurosurgeons through surveys. Among 119 respondents, the majority (78.9%) used dural tenting sutures in over 60% of surgeries, and most (72.3%) reported using them routinely.

The final paper presented the primary and secondary outcomes of a randomized, multicenter, investigator- and participant-blinded controlled trial. Across five participating centers, 490 patients were assigned to either the intervention group (238 patients, 49%, no dural tenting) or the control group (252 patients, 51%, dural tenting) based on an intention-to-treat analysis. No significant differences were found between the intervention (no dural tenting) and control (dural tenting) groups. The trial confirmed the non-inferiority of omitting prophylactic dural tenting for EDH requiring surgery in adults undergoing elective supratentorial craniotomies.

These studies provide significant insights into the role of dural tenting sutures and their usage among Polish neurosurgeons. Our data support the non-inferiority of omitting prophylactic dural tenting in preventing postoperative EDH requiring surgery in elective supratentorial craniotomies.