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THE PERIOPERATIVE PERIOD: A CRUCIAL TIME POINT FOR OPTIMAL MANAGEMENT OF TRAUMATIC BRAIN INJURIES

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Relevance. Traumatic brain injury (TBI) is a major cause of morbidity and mortality worldwide. Early management of TBI is critical to minimize secondary brain injury and improve outcomes. Traumatic brain injury can be either primary or secondary. Primary injuries can result in skull fractures , brain , contusion or intracranial hematoma which leads to increase in Intracranial pressure and cerebral perfusion pressure while secondary injuries can result in physiological disturbances such as hypoxemia and hypotension Although severity of primary injury is the major factor determining the outcomes, secondary injuries proved to be contributing reasons for morbidity and mortality. The perioperative period, however, acts as a savior for the patients of TBI by acting as a potential window to initiate interventions that may improve outcome of TBI. So, the perioperative period, defined as the time from injury to 24-72 hours post-injury, is a crucial time point for optimal management of TBI. This thesis aims to investigate the importance of the perioperative period in the management of TBI and how it can influence patient outcomes.

Materials and methods. A systematic review of the literature Was performed to identify studies that investigate the management of TBI during the perioperative period. The databases MEDLINE, EMBASE, and Cochrane Library were searched for relevant articles. Eligible studies were those that evaluate the impact of interventions performed during the perioperative period on TBI outcomes . these interventions included surgical procedures such as (craniotomy, de-compressive craniotomy, Intracranial pressure monitoring - for lowering intracranial pressure or removing part of hematoma) ,postoperative care such as(monitoring vitals such as blood pressure ,heart rate respiratory rate etc. proper positioning such as semi-fowler's position proper oxygen , wound care and adequate nutrition) , pharmacological treatments such as(analgesics , anticoagulants ,anticonvulsants) and other interventions performed during the perioperative period.. The included studies were analyzed qualitatively and quantitatively.

Results and their discussion. The results of the systematic review will be presented, highlighting the importance of the perioperative period in the management of TBI. The literature may show that the timely and appropriate management of TBI during the perioperative period can reduce secondary brain injury and improve patient outcomes. The discussion will summarize the findings of the systematic review and highlight the importance of the perioperative period in the management of TBI. Potential perioperative interventions will be discussed, such as de-compressive craniotomy or use of an intracranial pressure monitor. Limitations of the review and areas for future research will also be discussed.

Conclusion: the perioperative period is a crucial time point for the management of TBI. Timely and appropriate interventions during this period can have a significant impact on patient outcomes. Further research is needed to optimize perioperative management strategies and improve TBI outcomes.