



Literature Reviews

From Trauma to Tumour: exploring post-TBI glioblastoma patient characteristics

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Abstract

Introduction

Post-TBI GBM is a very rare presentation, which has not been comprehensively characterised by present literature. This systematic review aims to characterise post-TBI GBM patient demographics following systematic review of case studies and case-series.

Methods

A systematic review was conducted for reports published until April 2023. All case reports which satisfied the criteria for diagnosing post-TBI GBM outlined by Moorthy & Rajshekhar (2004) were included. The JBI case report appraisal was used to assess the quality of reporting of included articles.

Results

A total of 13 studies were included presenting 16 patients, with most of them being male (81%). Contusive TBI was the most frequent initial insult observed, with most patients requiring surgical intervention to manage the TBI. The median latency between TBI and GBM diagnosis was 9.5 years with a negative correlation observed against patient age at TBI occurrence, but a positive correlation was noted for patients with IDH-wildtype GBM. Median age at GBM diagnosis was 56 years.

Conclusion

This systematic review has highlighted a possible link to GBM development at the previous TBI site. Updated

criteria for identifying post-TBI brain tumours are proposed to keep abreast with the latest advances in classifying central nervous system tumours. To establish a definitive link, a large scale international multicentre study investigating the occurrence WHO grade-IV IDH-wildtype de novo GBM is crucial after TBI is crucial. Regular monitoring, especially in middle-aged and older TBI patients, is advisable.

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