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**Original Article**

**Increasing incidence and continued dismal outcome of primary central nervous system lymphoma in Norway 1989-2003<sup>†</sup>**

**Time trends in a 15-year national survey**

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<sup>†</sup>A correction was made to Table 4 of this article post-online publication in order to provide greater clarity to the data being presented. These changes do not affect the the core data or the conclusions of the article in any way. The publisher apologizes for the oversight and any confusion that may have ensued.

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**KEYWORDS**

primary central nervous system lymphoma • incidence • survival • treatment

**ABSTRACT**

**BACKGROUND.**

The incidence of primary central nervous system lymphoma (PCNSL) appears to be increasing in some countries, whereas it is stable in others. Many reports the last decades have suggested that there have been improvements in the treatment of PCNSL. The objective of this study was to analyze time trends in the incidence, clinical features, histologic diagnosis, treatment, and outcome of nonacquired immunodeficiency syndrome (non-AIDS) PCNSL in Norway from 1989 to 2003.

**METHODS.**

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Patients were identified by a chart review of all patients who had a recorded diagnosis of PCNSL from 1989 to 2003 in The Norwegian Cancer Registry. The histologic and cytologic material from each patient was re-examined by pathologists. Time trends were analyzed according to year of diagnosis grouped into 3 5-year periods: 1989-1993, 1994-1998, and 1999-2003.

#### RESULTS.

There were 98 patients who had confirmed, newly diagnosed non-AIDS PCNSL in Norway from 1989 to 2003. The incidence rate increased during the consecutive 5-year periods from 0.89 per million during 1989 to 1993, to 1.74 per million during 1994 to 1998, and to 1.82 per million during 1999 to 2003 ( $P = .013$ ). Diagnostic delay and overall survival did not improve with time. Survival decreased from 1999 to 2003 compared with survival from 1994 to 1998, which was explained in part by reduced performance status and fewer patients receiving combined chemotherapy and radiotherapy during 1999 to 2003. In multivariate analysis, age  $\leq 50$  years, a good performance status, and active treatment (especially combined chemotherapy and radiotherapy) significantly improved survival.

#### CONCLUSIONS.

The incidence of PCNSL is increasing in Norway. Despite diagnostic and therapeutic advances over the last decades, neither a reduction in diagnostic delay nor any improvement in overall survival with time was observed. The search for improved understanding of etiology and treatment should be intensified. Cancer 2007. © 2007 American Cancer Society.

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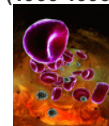
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