

## Accidental intrathecal methotrexate overdose

### *İntratekal yüksek doz metotreksatın yanlışlıkla uygulanması*

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We read your recent article about intrathecal methotrexate overdose with great interest [1]. Although intrathecal methotrexate overdose rarely occurs, it is frequently lethal and may result in neurologic sequelae. Thus, new case reports may enhance our knowledge of this potentially lethal toxicity. Intrathecal methotrexate overdose was accidentally administered to two children that subsequently developed progressive neurologic symptoms and signs shortly afterwards; however, no neurologic manifestations were observed in a case we recently published, which resulted in delayed recognition of the intrathecal methotrexate overdose [2]. An intrathecal dose of 50-120 mg may cause no or mild neurologic signs. There seems to be variation in neurologic signs that may be related to differences in cerebrospinal fluid dynamics between individuals [3,4].

Various EEG patterns reported in patients with methotrexate overdose may have been due to intrathecal methotrexate overdose or due to systemic high-dose methotrexate given concomitantly [2,5,6]. We observed EEG findings indicative of encephalopathy in our patient, including slow activation increase in the background and paroxysmal activation of the temporal region [2]; however, we did not administer anticonvulsant therapy to the

patient because she did not have any neurologic symptom.

Current management recommendations for intrathecal methotrexate overdose are based on case reports and small case series. It is important to drain the cerebrospinal fluid as soon as possible after overdose is determined. We think cerebrospinal exchange, as described in Kazancı et al.'s cases and our case, is more effective [1,2]. Concomitant administration of high-dose folinic acid rescue and dexamethasone are recommended in all published reports [1].

The cause of intrathecal methotrexate overdose in our case was accidental intrathecal administration of higher intravenous dose vial in small volume [2], which resulted from the resemblance of the labels of two different strength methotrexate preparations, as reported by Kazancı et al. [1]. As previously suggested, to prevent this lethal error, separate package-specific labeling of preparations for intrathecal and intravenous use by pharmaceutical companies may be helpful [7].

In conclusion, accidental intrathecal methotrexate overdose may not cause neurologic symptoms; however, in cases of delayed recognition of intrathecal methotrexate overdose the treatment protocol that was successfully used in our case is recommended.

### Conflict of interest statement

The authors of this paper have no conflicts of interest, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

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