



## Early predictive factors of single dose methotrexate outcome in patients with ectopic pregnancy

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Dear editor,

We read with great interest the comment of Levin et al. regarding our article recently published in Archives of Gynecology and Obstetrics [1]. In their letter, the authors suggest that the dosage we used for single dose methotrexate (MTX) therapy (1 mg/kg, versus 50 mg/m<sup>2</sup> of body surface area in the protocol by Stovall et al. [2]) may explain the relatively low success rate we observed (54.5% following a single injection). However, high-quality data comparing the efficacy of single dose MTX treatment according to MTX dosage are still lacking. Hence, recent French guidelines have recommended the use of both dosages [3].

In a recent retrospective study, Levin et al. tried to identify early markers of single dose MTX success. The authors concluded that the initial 24 h increase in  $\beta$ hCG and the percentage change in  $\beta$ hCG from day 1 to day 4 were significant prognostic factors for treatment outcome [4]. Nevertheless, their true performances in predicting treatment success were quite low. Indeed,  $\beta$ hCG change between day 1 and day 4 displayed an area under curve (AUC) of 0.66. In contrast, AUC was 0.826 in our study. Furthermore, it is unclear whether baseline  $\beta$ hCG level was included in their logistic regression model while it has been identified as a strong prognosis factor in many studies [1, 5].

We agree that identification of earlier predictors of single dose MTX success is of tremendous importance. However, their implementation in routine practice is probably even more important. To date, available literature does not support the use of early  $\beta$ hCG kinetics to plan post-treatment follow-up, except for patients displaying extreme changes. Further, larger and prospective studies are thus required to fully determine the clinical usefulness of such parameters.

### Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

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