

## The Role of Oral Contraceptives in Cerebral Venous Thrombosis during Ramadan and Hadj Months

### Dear Editor,

Among the drugs associated with the occurrence of cerebral venous thrombosis (CVT), oral contraceptives (OCP) are by far the most common ones. Consecutive patients with definite diagnosis of CVT admitted in Ghaem hospital, Mashhad during 2005-2008 were enrolled in a prospective study. Diagnosis of CVT was made by the stroke neurologists and confirmed by MRI and MRV.<sup>1</sup> All patients with CVT underwent a standard etiologic investigation.<sup>1</sup> Detailed history of OCP consumption, its duration and type of OCP based on the estradiol component were taken.<sup>1</sup> Short term OCP consumption was defined as using OCP in the previous 3 months. Sixty two patients (51 females, 11 males) with a mean age of 32.3 (range=18-62 years) were admitted with CVT. Multiple causes of CVT were found in 29% of the patients. OCP consumption was found to be a risk factor in 56.8% of females (29/51) with CVT. This group of females used LD and HD types of OCP in 97% and 3% of cases, respectively. Short period OCP consumption was found in 41.2% of the females (21/51). Short period consumption was found in 72.4% of females with CVT who had taken OCP (21/29), among them 95.2% used LD; 20 LD and 1 HD. Among females with short term OCP consumption, Ramadan and Hadj religious months were the reason of using short term OCP in 85.7% and 4.8%, respectively. Distribution of CVT in females during Ramadan was significantly higher than other months ( $\chi^2=14.7$ ,  $p=0.001$ ). Among 29 females who had been on OCP, dehydration, hypercoagulable state and both of these conditions were found in 44.8%, 10.3% and 6.9%, respectively. Fasting in Ramadan was the reason of dehydration in 88.9%. Hypercoagulable state was associated with other risk factors in 55.5%. Two thirds of our males with CVT had uncertain etiology despite complete diagnostic investigations. Distribution of etiology of CVT varies around the world. For instance, Behcet disease accounts for about 25% of all CVT in Saudi Arabia.<sup>2</sup>

Puerperal state caused 60% of all CVT in Mexico city.<sup>3</sup> In developed countries, the role of OCP is more important. OCP consumption constituted 43% of CVT etiologies and was found in 51% of females with CVT in Tabriz, north western Iran.<sup>4</sup> In a French study of 134 CVT patients, OCP was the only etiologic factor in 10% of the cases; however, OCP use was also associated with other conditions such as systemic Lupus or Behcet disease in another 10%.<sup>5</sup> De Bruijn reported a 30-fold increased risk of CVT in women with a combination of thrombophilic abnormalities and use of OCP, as compared to women without either risk factor.<sup>6</sup> Since menstrual period prohibits Muslim women of entering holy places during Hadj rituals and prevents them from fasting in Ramadan. Thus, they used short term OCP for a month in order to postpone menstruation and perform religious duties. On the other hand, dehydration during fasting in Ramadan facilitates development of CVT in females who were on short period OCP consumption. This concept highlights the need for public awareness of this important complication of OCP in muslim women, especially during Ramadan month.

**Keywords:** Oral contraceptive; Cerebral venous thrombosis; Ramadan, Hadj

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