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**Baretić, Maja; Juri Mandić, Jelena; Kusačić Kuna, Sanja; Gudelj, Lara; Radić, Marija; Zlatar, Mirna**

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## Awareness of EUGOGO guidelines and attitudes regarding smoking in Graves' orbitopathy in Croatia

Dear Editor,

We have read with great interest the article in Your Journal from Nabi and Rafiq "Factors associated with severity of orbitopathy in patients with Graves' disease," highlighting the association of Graves' orbitopathy (GO) and active smoking,<sup>[1]</sup> and would like to share experiences regarding the clinical practice in our country. It is a common knowledge that Graves' disease is the most frequent cause of hyperthyroidism; it also affects other organs including eyes and skin. Thyroid-associated ophthalmopathy, an autoimmune inflammatory condition, affects 25%–50% of patients with Graves' disease.<sup>[2]</sup> Smokers with Graves' disease are five times more likely to develop GO than nonsmokers.<sup>[3]</sup> There are strong data of reversibility of symptoms too; former smokers seem to have lower risk of developing orbitopathy than current ones.<sup>[4]</sup>

In 2008 and 2016, the European Group on Graves' Orbitopathy (EUGOGO) published consensus statement on the management of GO that was widespread ever since.<sup>[5]</sup> Having in mind unknown general perception and practical usage of the statement among Croatian clinicians, we conducted a survey evaluating the awareness and practical usage of the EUGOGO guidelines among physicians treating Graves' disease in daily practice. Further, the idea was to explore their attitude toward importance of smoking as a risk factor for GO.

An internet-based, anonymous online survey was conducted among 40 ophthalmologists, 36 endocrinologists, and 24 nuclear medicine specialists, members of Croatian national societies. Median age of the participants was 51.15 years; 68% were females. From 100 participants, 46% worked at clinical hospitals, 28% at county hospitals, and 27% at outpatient clinics. Two questions we concentrated on were "Do you use EUGOGO guidelines in daily practice for diagnosis and treatment of GO?" and "Do you know which factors according to the EUGOGO guidelines are associated with progression and outcome of the treatment in GO?" The results of the survey showed that 26% of the participants are not using the EUGOGO guidelines; 22.5% of all ophthalmologists (9 of 40 participants), 27.8% of all endocrinologists (10 of 36 participants), and 29.2%

of all nuclear medicine specialists (7 of 24 participants). Even 30% of all participants did not recognize smoking as risk factors determining the outcome of the disease; 37.5% of all ophthalmologists (15 of 40 participants), 16.7% of all endocrinologists (6 of 36 participants), and 37.5% of all nuclear medicine specialists (9 of 24 participants).

The EUGOGO guidelines were made with the aim to provide proper diagnosis and treatment for patients with GO; a third of Croatian clinicians involved in treatment of the disease still do not use it. Similar percentage of them were not aware of the clear causal association between smoking and development of GO. There is unambiguous recommendation in the EUGOGO statement for the physicians to urge all patients with Graves' disease, irrespective of the presence or absence of the GO, to refrain from smoking.<sup>[5]</sup> Following the guidelines represents best clinical practice for the physicians treating GO. Smoking, the strongest risk factor of the progression of the GO, is easy to modify.

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### Conflicts of interest

The authors declare that there are no conflicts of interests of this paper.

**Baretić Maja<sup>1,2,3\*</sup>, Juri Mandić Jelena<sup>1,2,4</sup>,  
Kusačić Kuna Sanja<sup>1,2,5</sup>, Gudelj Lara<sup>1</sup>,  
Radić Marija<sup>1</sup>, Zlatar Mirna<sup>6</sup>**

<sup>1</sup>School of Medicine, University of Zagreb, Zagreb, Croatia,

<sup>2</sup>Croatian EUGOGO Centre, University Hospital Centre Zagreb, Zagreb, Croatia, <sup>3</sup>Department of Endocrinology and Diabetes,

Internal Clinic, University Hospital Centre Zagreb, Zagreb, Croatia,

<sup>4</sup>Department of Ophthalmology, University Hospital Centre Zagreb,

Zagreb, Croatia, <sup>5</sup>Department of Nuclear Medicine and Radiation

Protection, University Hospital Centre Zagreb, Zagreb, Croatia,

<sup>6</sup>Department of Ophthalmology, General Hospital Virovitica, Virovitica, Croatia

### \*Address for correspondence:

Dr. Baretić Maja,  
Frana Folnegovića 1a, 10 000 Zagreb, Croatia.  
E-mail: maja.baretic@kbc-zagreb.hr

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