

## PS06 Povišenje humanog korionskog gonadotropina uzrokovanog biotinom

Josip Stjepanović<sup>a</sup>, Robert Likić<sup>b</sup>

<sup>a</sup> Medicinski fakultet, Sveučilište u Zagrebu

<sup>b</sup> Zavod za kliničku farmakologiju, Klinički bolnički centar Zagreb

DOI: <https://doi.org/10.26800/LV-143-supl3-PS06>

 Josip Stjepanović (0000-0002-3146-9704), Robert Likić (0000-0003-1413-4862)

Ključne riječi: Nutricijska potpora, onkologija, urologija, urološki tumori

Humani korionski gonadotropin (hCG) je glikoproteinski hormon kojeg izlučuju stanice sinciciotrofoblasta. Koristi se kao tumorski marker za gestacijske trofoblastične bolesti i tumore zametnih stanica. Nadalje, suplementi (npr. biotin) mogu interferirati s laboratorijskim vrijednostima hCG-a i uzrokovati lažno pozitivne ili lažno negativne vrijednosti. 24-godišnji je muškarac koristio vitaminske suplemente sa značajno povišenom dozom biotina (150 µg / 300% referentne vrijednosti). Godinu ranije, nakon što ga je pogodila lopta, doživio je snažnu bol preponske regije. Usprkos kliničkom pregledu bez osobitosti, zakazana je analiza tumorskih markera koja je pokazala normalnu vrijednost hCG-a (<0,6 IU/L ; referentna vrijednost ≤2 IU/L). U kolovozu 2021. godine, zabunom je ponovno analiziran hCG koji je ovoga puta bio 3,8 IU/L. Odmah je zakazan pregled po urologu. Također su i ovoga puta klinički pregled i ultrazvuk testisa bili neupadljivi. Pacijent je u potpunosti prekinuo unos suplemenata te je nakon mjesec dana ponovio hCG test koji je bio 2,0 IU/L. Daljnja evaluacija stanja nije bila preporučena. Prekomjeren unos biotina može uzrokovati povećanje laboratorijskih vrijednosti hCG-a. Primjereno bi bilo informirati pacijente o mogućoj interferenciji biotina s laboratorijskim vrijednostima hCG-a. Osim toga, potrebno je savjetovati pacijente da odgode laboratorijska testiranja na nekoliko dana po prekidu suplementacije biotinom. Konačno, potencijalne se maligne bolesti uvijek moraju isključiti kad god se opaze povećane vrijednosti hCG-a unatoč prekomjernom unosu biotina.

### Biotin induced elevation of Human Chorionic Gonadotropin

Keywords: Nutritional support, oncology, urology, urological tumours

Human Chorionic Gonadotropin (hCG) is a glycoprotein hormone secreted by the syncytiotrophoblast. It is used as a tumor marker for gestational trophoblastic disease and germ cell tumors. Moreover, supplements, such as biotin, can interfere with hCG laboratory tests causing either false positive or false negative hCG. A 24-year-old male patient was taking a significantly higher dose of biotin (150 µg / 300% of the reference value) in vitamin supplements. A year earlier, he suffered extreme pain in the groin after being hit by a soccer ball. A physical examination at that time was unremarkable. Nevertheless, a tumor marker blood panel was scheduled which revealed a normal hCG level (<0,6 IU/L; referent interval ≤2 IU/L). In August of 2021., the hCG test was erroneously repeated and it came back elevated at 3,6 IU/L. A repeated urological physical examination as well as testicular ultrasound were ordered immediately and turned back unremarkable. The patient completely discontinued vitamin supplementation and repeated the hCG test a month later which was 2,0 IU/L. Further evaluation was not recommended. Overconsumption of biotin may cause elevated hCG levels in routine laboratory workups. The appropriate approach would be to inform patients of potential adverse effects of biotin use and to suggest postponing laboratory tests for several days following supplementation cessation to allow biotin to clear from the body. Finally, potential malignancies must always be ruled out whenever the increase in hCG is noted despite the excessive biotin intake.