

A Possible Connection Between Taste Change and Zinc Deficiency after Bariatric Surgery: A Literature Review

Authors : Boshra Mozaffar, Iskandar Idris

Abstract : Taste change is a common complication after Bariatric surgery (BS). However, the cause of this is still not clear. Since zinc is important for taste perception, zinc deficiency, which is common after BS, may play an important role for taste change after BS. In this review, we aim to collate evidence relating to taste change and zinc deficiency in relation to BS; effects of zinc replacement on taste perception in general and thereafter discuss the possible role of zinc deficiency to induce taste change after BS. A literature search was conducted, using four electronic bibliographical databases—EMBASE, PubMed, AMED and MEDLINE. We identified all available and relevant articles published before 30th February 2021. In total, 33 studies were included. The total number of participants analysed was N= 3264. We showed that taste change is a frequent complication after BS, especially after Roux-en-Y gastric bypass RYGBP comparing to other types of procedures. Patients' taste sensitivity differs among studies, but the most important decline in taste preference was observed for sweet food. Twelve studies investigating zinc deficiency following BS showed a significant decrease in zinc levels at six months after surgery. Supplementation with 45-50 mg of zinc sulphate was effective in improving taste, except in cancer patients, who showed no improvement in taste following zinc supplementation. Zinc deficiency appears to be associated with taste change after BS. Supplementation with much higher levels of zinc, at 45-50 mg, was effective in taste change treatment for many cases of taste disorder. The currently recommended levels of zinc replacements currently prescribed to patients following BS were not effective for avoiding zinc deficiency after BS—and thus not effective for averting taste change. It is therefore suggested that taste change following BS is closely related to zinc deficiency induced by the surgery.

Keywords : taste change, taste disorder, bariatric surgery, zinc, zinc sulphate or Zn, deficiency, supplementation, and micro-nutrient deficiencies

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