Mandibular bone effects of botulinum toxin injections in masticatory muscles in adult

Titre	Mandibular bone effects of botulinum toxin injections in masticatory muscles in adult
Type de publication	Article de revue
Auteur	Kahn, Alexis [1], Kün-Darbois, Jean-Daniel [2], Bertin, Hélios [3], Corre, Pierre [4], Chappard, Daniel [5]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2020
Langue	Anglais
Date	20 Mars 2019
Numéro	2
Pagination	100-108
Volume	129
Titre de la revue	Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology
ISSN	2212-4411
Résumé en anglais	OBJECTIVE: Botulinum toxin (BTX) is injected into masticatory muscles to treat various conditions. Animal studies have demonstrated bone loss at the condylar and alveolar regions of the mandible after BTX injection into masticatory muscles. The aim of the present study was to investigate mandibular bone changes in patients who received BTX injections in masticatory muscles. STUDY DESIGN: Twelve adult patients who received BTX injections into masticatory muscles were included in this study. Cone beam computed tomography (CBCT) was performed before and 12 months after the injection. The condylar and alveolar regions of the mandible were analyzed by using texture analysis of the CBCT images with the run length method. Condylar cortical thickness was measured, and 3-dimensional analysis of the mandible was also performed. Six patients who did not receive BTX injections were used as controls. RESULTS: A run length parameter (gray level nonuniformity) was found to be increased in condylar and alveolar bones. A significant cortical thinning was found at the anterior portion of the right condyle. Three-dimensional analysis showed significant changes in the condylar bone and at the digastric fossa. No changes in mandibular angles were found. CONCLUSIONS: This study identified mandibular bone changes in adult patients who received BTX injection into masticatory muscles.
URL de la notice	http://okina.univ-angers.fr/publications/ua20233 [6]
DOI	10.1016/j.oooo.2019.03.007 [7]
Lien vers le document	https://www.oooojournal.net/article/S2212-4403 [8](19)30397-9/fulltext
Titre abrégé	Oral Surg Oral Med Oral Pathol Oral Radiol

Identifiant (ID) PubMed	31227452 [9]

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