Gubernaculum Dentis: A report of 31 cases

Joanne Briner ¹, Andres Briner ², Michelle Briner³

1. Universidad del Desarrollo, Santiago, Chile.
2. Universidad de Chile, Santiago, Chile.
3. Universidad de Los Andes, Santiago, Chile.

Introduction: Gubernaculum Dentis is a rare vestigial anatomic structure, described in the literature as a band of connective tissue and dental lamina epithelium, which connects pericoronal follicular tissue, of impacted permanent teeth, to overlying periosteum. Some authors associate this entity with various pathologies. Gubernaculum Dentis is barely described in radiology literature, leading to omissions, errors or diagnostic confusion with normal anatomic structures.

Objectives: To describe Gubernaculum Dentis imaging characteristics and its differential diagnoses.
**Material and Methods:** Gubernaculum Dentis visualization was retrospectively analyzed using CBCT, panoramic and periapical radiographs from January 2015 to October 2016. 31 cases of Gubernaculum Dentis were observed, which corresponded to 16 patients. All radiographic images were obtained in a private radiology center in Santiago, Chile.

**Results:** Out of the 31 cases that were studied, 14 were canines in eruption process or impacted, 1 deciduous molar, 2 supernumeraries, 6 premolars, 2 incisors accompanied by odontomas, 1 compound odontoma and 5 third molars. In all cases the radiographic images presented similar characteristics. In only one case radiographic signs of cystic or tumoral pathology were observed.

**Conclusion:** The Gubernaculum Dentis is visualized as a radiolucent tract, with corticalized, parallel and generally rectilinear borders, which diameter and length varies in all cases. It extends from pericoronal space of an unerupted or impacted tooth or an odontoma to the corresponding zone at the alveolar crest. It is always bilateral, unless the contralateral counterpart is already erupted or does not exist. It must be differentiated from
bone trabeculae, medullary spaces, neurovascular bundles, fistular or sinus tracts and nasopalatine canal.

**Keywords:** Gubernaculum Dentis, Gobernaculum Cord, Gubernaculum Canal, Gobernaculum Tract.