Two Cases of Supernumerary Teeth in the Posterior Mandible

Kosuke Takahashi,1 Suguru Watanabe,1 Ko Ito,1 Takashi Eda,1 Mai Tajima,1 Teruo Yano,1 Yugo Kato,2 Mayu Suzuki,2 Fumie Yamazaki,1 Akinobu Aoki,1 Naomi Ogura,1 and Toshirou Kondoh1

1Department of Maxillofacial Surgery, Nihon University School of Dentistry at Matsudo, Matsudo, Chiba 271-8587, Japan
2Nihon University Graduate School of Dentistry at Matsudo, Maxillofacial Surgery, Matsudo, Chiba 271-8587, Japan

Introduction
Supernumerary teeth can be defined as teeth exceeding the normal dental complement for their location and morphology (1). Supernumerary teeth are most frequently mesiodens, located between the central incisors in the anterior maxilla (2, 3). A supernumerary tooth located in the mandibular molar region is unusual (1). Bolk reported on the classification of supernumerary teeth in the molar region, describing two types: distomolar, located posterior to the molar; supernumerary teeth located beside mandibular molars are very rare. We report two cases of supernumerary teeth around the mandibular molar. Case 1 involved a 22-year-old woman referred to our hospital for treatment of left mandibular premolar discomfort. Radiographic examination showed supernumerary teeth in the mandible. The clinical diagnosis was supernumerary teeth. Surgical extractions of the supernumerary teeth were performed under local anesthesia. Case 2 involved a 22-year-old women referred to our hospital with discomfort in the left mandibular premolar region. Radiographic examination showed supernumerary teeth in the mandible. The clinical diagnosis was supernumerary teeth. Surgical extractions of supernumerary teeth were performed under general anesthesia.

Case reports
Case 1
A 22-year-old woman was referred to our hospital for treatment of left posterior mandibular discomfort. Family medical and dental histories were noncontributory. Clinically, no swelling, pain, or paresthesia was apparent around the region and no abnormal findings were seen in the left posterior mandibular region (Fig. 1a). Radiographic examination showed supernumerary teeth in the mandible (Fig. 1b, 1c). The diagnosis was a supernumerary paramolar. Surgical extraction of the paramolar and impacted third molar tooth was performed under local anesthesia. No recurrence was evident clinically at the 6-month follow-up evaluation or radiographically at 27 months.

Case 2
A 22-year-old woman was referred to our hospital for treatment of pain in the left posterior mandible. The fami-
ily medical and dental histories were noncontributory. Clinically, no swelling was around the painful region. An impacted tooth with eruption of part of the crown was observed, but no abnormal findings were seen in the region of the left posterior mandible (Fig. 4a). Radiographic examination showed a supernumerary tooth above impacted third molar tooth (Fig. 4b, 4c). Computed tomography showed a supernumerary tooth in the mandible and located on the third molar tooth (Fig. 5). This distomolar tooth did not show ankylosis with the impacted third molar or continuity with the periodontal ligament. The diagnosis was supernumerary distomolar. Surgical extraction of the paramolar supernumerary tooth were performed under general anesthesia with the other four third molars. No recurrence was evident clinically or radiographically at the 6-month follow-up.

**Discussion**

Many researchers have been reported on supernumerary teeth, but the causes remain unclear. Rajab reported the prevalence of supernumerary teeth in a general Caucasian population as a percentage of the dentition ranged

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**Fig. 1a.** Partially erupted supernumerary tooth in the left posterior mandible.

**Fig. 1b.** Dental radiography shows a well-defined supernumerary tooth between the second and third molars in the posterior mandible.

**Fig. 1c.** Panoramic radiography shows a well-defined radiolucent lesion in the posterior mandible.
from 0.1% to 3.8% (5). Stafne reported on the incidence of supernumerary teeth, with anterior maxillary teeth as the most frequent (49.2%), followed by posterior maxillary teeth (37.8%) (6). Posterior mandibular teeth represented only 2%, and were very rare. Fujita reported that supernumerary teeth was not occurred to be averaged in any part of tooth arch but was very rare in the posterior mandible (7). Bolk reported the classification of supernumerary teeth by location as distomolar and paramolar (4). Stafne and Tochihara reported the percentage incidence of distomolar and paramolar teeth in the maxilla and mandible. The incidence of mandibular distomolars was 2% according to Stafne, and 0.19% according to Tochihara (6, 7). The incidence of mandibular paramolars was 0%. Whether Stafne reported the incidence of mandibular paramolars was 0.77% (6). On the other hand, the incidence of maxillary distomolars was 26.2% according to Stafne, and 1.35% according to Tochihara (6, 7). The incidence of maxillary paramolars was reported as 11.6% by Stafne, and 10.0% by Tochihara (6, 7). The mandibular distomolar and paramolar seen in the present cases thus appear very rare.

Shirakawa and Fujita reported that with tooth germs generated from the dental lamina, hyperplasia sometimes occurs, and supernumerary teeth are more likely to arise in the gaps between normal embryonic teeth, especially in the median upper anterior part of the maxilla (8, 9). Moriguchi and other researcher reported that the supernumerary tooth could be created as a result of two processes: 1: Dichotomy of the tooth bud; 2: Hyperactivity of the dental lamina (10–12). Fujita reported that there is a transitional relationship between the paramolar and paramolar cusp, and a transitional relationship between the distomolar and distomolar tubercle (13). For supernumerary teeth in the posterior mandible, Fujita suggested hyperactivity of the dental lamina as the cause (13). Miyai

Fig. 2. Computed tomography reveals: a) a supernumerary tooth located beside the mesial part of the impacted third molar; and b) a normal-looking root of the supernumerary tooth.

Fig. 3. Gingival incision from the left mandibular premolar to the impacted third molar, revealing the impacted supernumerary tooth.
reported that supernumerary teeth caused by dichotomy of the tooth bud are smaller than normal teeth, with a malformed tooth root (14). Kobayashi reported that supernumerary teeth caused by hyperactivity of the dental lamina are again smaller than normal teeth, but with similar morphology to the normal tooth (15). In our two cases, the supernumerary teeth were smaller than normal teeth, but the tooth roots showed an almost normal shape. These supernumerary teeth thus seemed likely to have been caused by hyperactivity of the dental lamina.

Hogstrum reported that supernumerary teeth should be extracted immediately if any complications are present (16). Garvery recommended a wait-and-see approach without extraction where satisfactory eruption of related teeth had occurred, and no need for orthodontic treatment is envisaged (17). In our two cases, patients showed complications of pain and discomfort and we chose extraction. Fortunately in our two cases, there were no post-operative sequelae such as paresthesia and infections. When extracting the supernumerary teeth, it is necessary to determine whether or not surgery should be performed.
Conclusion

Here, we have presented two cases of supernumerary teeth in the posterior mandible. Standard procedures for clinical and radiological examinations must be established. In the present cases, no recurrences were observed after conservative surgical extraction.

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Fig. 5. Computed tomography reveals: a) an amorphous root of the supernumerary tooth; and b: the supernumerary tooth located above the distal part of the impacted third molar.