

原文題目(出處)：	Tooth Extraction in Patients Taking Intravenous Bisphosphonates :A Preventive Protocol and Case Series: J Oral Maxillofac Surg 68;107-110,2010
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內文：

1. In patients who are about to start bisphosphonate treatment, the indications are relatively simple and include the removal of any teeth with doubtful prognosis and the achievement of optimal oral health.
2. Although Bisphosphonate-related osteonecrosis of the jaw (BRONJ) can develop with dentoalveolar surgery and implant placement, tooth extraction is considered the single intervention responsible for most BRONJ cases(86%).
3. Periodontal and dental abscesses expose patients have same risk to extraction(7-fold).
4. An absolute contraindication to tooth extraction in patient taking intravenous bisphosphonate may not be best approach(endo, medication—time consuming and ineffective)

Patients and Methods

patients

1. Taking intravenous bisphosphonate for least 3 months.
2. Patients with a history of radiation therapy to the jaws were excluded.
3. Indication for extraction: nonrestorable caries, endodontic failure, root fracture, severe periodontal disease, and teeth with a poor prognosis or at high risk of infectious complication.

Extraction Protocol

2-3 week~ surgery	0.2% CHX , scaling ,OHI
3 days ~ surgery`~2 weeks	Amoxicillin (1 g) TID
surgery	1.full thickness flap.2.local anesthesia 3.minimal trauma to cortical bone 4.remove granulation infected tissue 5.primary healing.
Surgery~one week	1%CHX gel 3 times/ day

BRONJ Defined as exposed, necrotic bone in the maxillofacial region that had persisted for more than 8 weeks.

Result

1. 23 patients(15F, 8M), mean age:68.2 years
2. 20-zoledronate , 2-pamidronate , 1-clodronate. 17.5 months (3-36months)
3. multiple myeloma (11), bone metasis of breast cancer(8) other solid tumor(kidney-1, larynx-1) , severe osteoporosis(2)
4. 31 intervention: 5-upper, 23-lower, 2-both
5. all stage protocol:19 , no OHI:10 , antibiotic therapy only after extraction:2
6. No case of BRONJ was recorded, 1 case a small area of bone exposed after 1 month , but resolve completely by following visit.
7. 5 patient who had BRONJ resulting from previous extraction, no complications occurred and extraction sockets healed normally.

Discussion

1. The design of an effective preventive protocol in already-treated patients might be difficult because of the uncertainty condition and local systemic risk factor.
2. Established a protocol designed to avoid infection of alveolar socket:
 - A. Minimize the oral bacterial loading.
 - B. Avoiding local infection. (antibiotic treatment, soft tissue primary closure, and CHX gel)
3. A recent retrospective study suggested the nearly 1 in 3 invasive dental procedures not associated with antibiotic prophylaxis (27%) can result in BRONJ.
4. Atraumatic tooth extraction performed by use of orthodontic elastics placed around the roots. Although on complications followed a series of 21 extractions, it requires a mean of 6 weeks.
5. Our study showing a significant protective effect of antibiotic prophylaxis in reducing the incidence of BRONJ in subjects with multiple myeloma.
6. Preventive protocol: prevent local and systemic infectious

complications by means of mechanical, antibacterial, and antibiotic measure.

題號	題目
1	下列哪一疾病不會使用 Bisphosphonates 治療 (A) Paget's disease (B) Alendronate sodium (C) osteoporosis (D) Golin syndrome
答案 (D)	出處：pathway of the pulp P732
題號	題目
2	哪一種治療可能會導致長期施打 Bisphosphonates 的病人產生 BRONJ (A) 根管治療 (B) 齒列矯正 (C) 植牙 (D) 牙齦下刮除術
答案 (C)	出處：