

扁桃膿栓症と扁桃処置 ～口蓋扁桃のラジオ波凝固治療～

臨床セミナー

「耳鼻咽喉科領域感染症における局所療法の意義」

第2回日本耳鼻咽喉科感染症・エアロゾル学会総会
平成26年9月5日(金)

笠井耳鼻咽喉科クリニック 笠井創

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●扁桃膿栓症

膿栓とは...感染症? ~ 異物

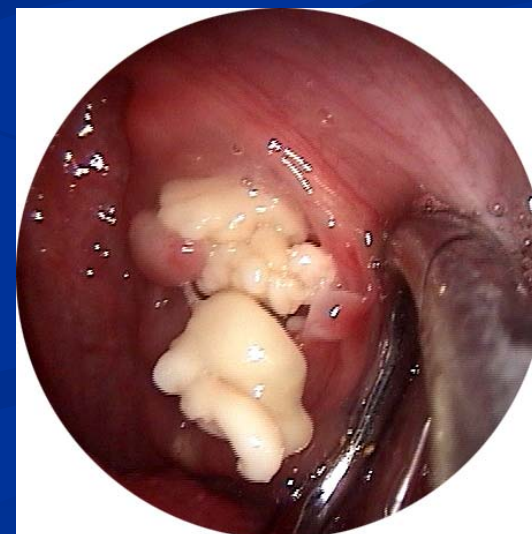
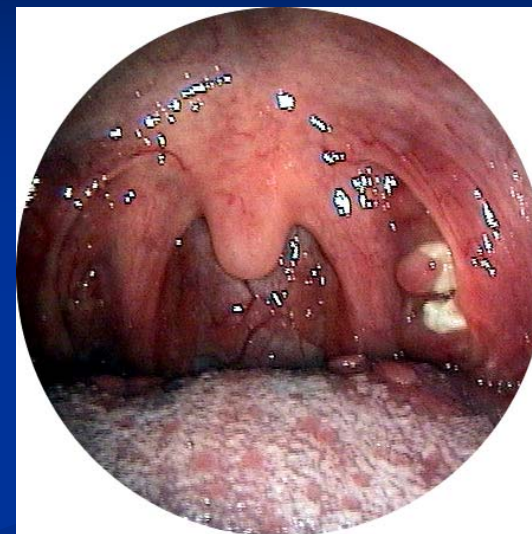
治療法

●扁桃処置...陰窩洗浄と吸引

適応症

手技

●扁桃のラジオ波凝固治療



扁桃処置、陰窩(腺窩)洗淨

- きちんと陰窩洗淨をしていない耳鼻科医が多い？
- 洗淨だけでは、うがいと変わらない？
- 陰窩洗淨の必要性を感じない。
- ①具体的な手技 ②治療効果 ③エビデンスは？
- 「やって欲しかったら開業医のところへ」
- 膿栓吸引だけで40点、陰窩洗淨しても同じ40点、注射器や蒸留水のコストは無く、割に合わない。

膿栓とは？

<http://www.ghorayeb.com/tonsillolith.html>

What are tonsilloliths?

「扁桃の陰窩で形成された石灰化物」

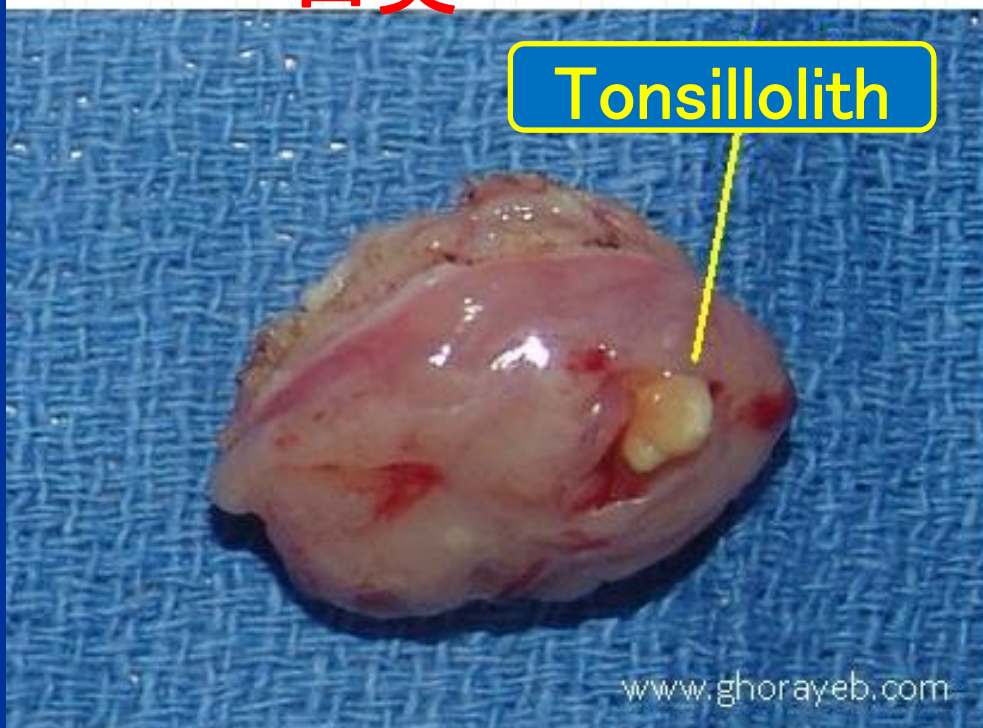
Concretions of varying size and consistency can form within the substance of the tonsils. Repeated episodes of inflammation may produce fibrosis at the openings of the tonsillar crypts. Food, epithelial and bacterial debris then accumulate within these crypts and produce a chronic inflammation. Calcification occurs sub-sequently. The debris is composed of the food particles, epithelial cells, and the surface of the tonsil. Patients invariably complain about the foul smell that emanates from these cheesy concretions (fedor oris or halitosis).

食物残渣、扁桃上皮、細菌などの debris

口臭

tonsil stones

くさ玉、臭い玉



Picture of Tonsillolith.

This tonsil has been surgically removed. It contains a yellowish tonsillolith inside one of its crypts.

The New York Times

http://www.nytimes.com/2009/09/01/health/01tonsils.html?_r=5&ref=health&

September 1, 2009

In Tonsils, a Problem the Size of a Pea

By ELIZABETH SVOBODA

As a child, Meghan Swann had suffered several bouts of **strep throat**, and when she was a teenager, she thought she felt another one coming on. The main symptom was familiar — a dull sore-throat pain. But this time something was different; there seemed to be **a foreign object stuck in the back of her throat**, something she couldn't quite swallow. "So I pushed on my tonsil, and something popped out," Ms. Swann said. **The yellowish object was about the size of a piece of gravel and had the sulfurous odor of bad breath.** "I thought it was a piece of food or something," she said.

From then on, Ms. Swann, 35, living in the St. Louis area, would periodically pop the mushroom-shaped growth out of her throat. It was a little embarrassing, but not enough to cause discomfort. One day, she was eating a sandwich and noticed a squishy lump in her throat. When she touched it, she felt a small, hard, white object. When Ms. Swann had the problem. "Wow," she remembers thinking, "there's a lot of people out there with this."

Formally known as **tonsilloliths**, the stones consist of **mucus, dead cells and other debris that collect in the deep pockets of the tonsils** and gradually condense into small, light-colored globs. **Bacteria feed on this accumulated matter, giving rise to the odor.** Most commonly, the stones are no bigger than a pencil eraser, although doctors have reported individual cases of patients with stones more than an inch wide.

In recent years, tonsil stones have become a frequent topic of discussion on the Internet. Lively message-board threads on sites like wrongdiagnosis.com draw dozens of anonymous sufferers looking for advice, sympathy and possible remedies. "All these years I've suffered in silence," one typical post reads. "Good to know I'm not some weirdo after all!"

ネットで噂の扁桃の膿栓について
tonsilloliths, tonsil stones

Tonsil Stones (Tonsilloliths)

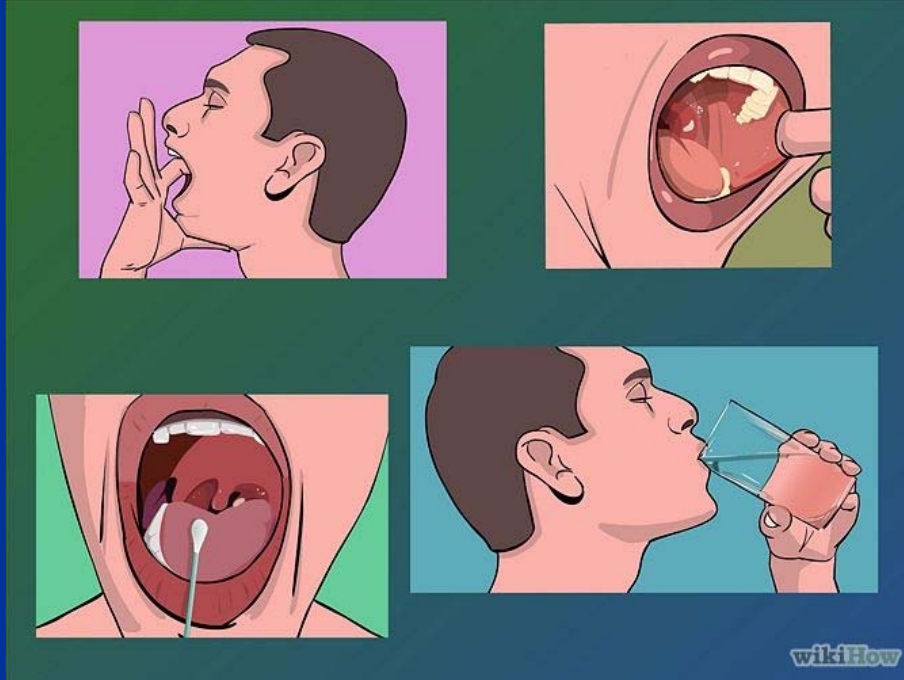
How Are Tonsil Stones Treated?



The appropriate treatment for a tonsil stone depends on the size of the tonsillolith and its potential to cause discomfort or harm. Options include:

- **No treatment.** Many tonsil stones, especially ones that have **no symptoms**, require **no special treatment**.
- **At-home removal.** Some people choose to dislodge tonsil stones at home with the use of **picks or swabs**.
- **Salt water gargles.** Gargling with warm, salty water **may help ease the discomfort** of tonsillitis, which often accompanies tonsil stones.
- **Antibiotics.** Various antibiotics can be used to treat tonsil stones. While they may be **helpful for some people**, they **cannot correct the basic problem** that is causing tonsilloliths. Also, antibiotics can have side effects.
- **Surgical removal.** When tonsil stones are **exceedingly large and symptomatic**, it may be necessary for a surgeon to remove them. In certain instances, a doctor will be able to perform this relatively **simple procedure using a local numbing agent**. Then the patient will not need general anesthesia.

How to Remove Tonsil Stones (Tonsiliths)





Tonsil Stone Cryptolysis



扁桃膿栓症の 陰窩切除手術

by **Dr. Christopher Chang**, last modified on 5/28/14

If you like this article, please comment [below!](#)

膿栓は、扁桃のニキビのようなもの

What are **tonsils stones**? In a nutshell, they are small, foul-smelling pebbles that are produced and eventually pop out of the tonsils. They taste bad and smell even worse. Consider them kind of like acne of the tonsils. They occur at any age and can spontaneously come and go. (Read [Washington Post article](#) on this.)

治療法は、いろいろあるが、、、

Conservative treatment includes gargling, water pick rinses, and even manual expression to pop them out (typically with blunt end of toothbrush or a finger).

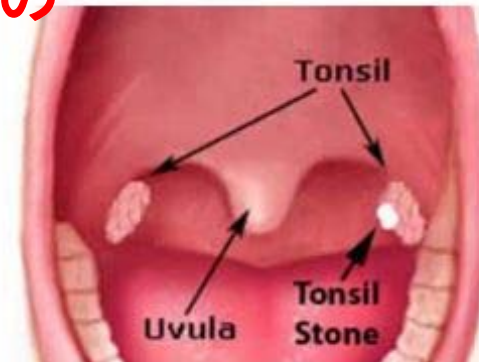
Read more about non-surgical treatment [here](#).

Then there is surgery...

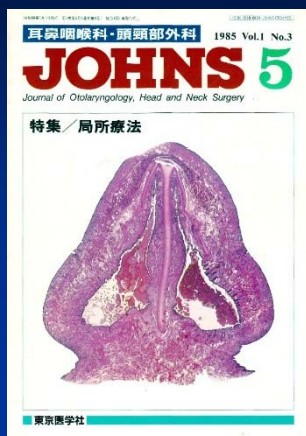
Cryptolysis : laser vs coblation

First of all... NO... we do not offer **laser cryptolysis**. However, we do offer what we feel is a better alternative which is coblation cryptolysis. This innovative procedure developed by **Dr. Chang** is performed awake and using only local anesthesia (in most patients) in order to cure patients of tonsil stones (also known as tonsiloliths). Rather than using **laser**, we use a technology called coblation (watch [movie](#); requires [Quicktime](#)) that in effect does the same thing, but in a much safer way for the patient (see below). Although there is no guarantee that this method will cure folks of tonsil stones (no more or less than **laser cryptolysis**), it is a less painful alternative method to consider and try before **tonsillectomy** which is the **only** known near 100% cure for tonsil stones (ie, as long as tonsils exist, there's always the potential for tonsil stones).

cf. tonsillectomy



扁桃処置、膿栓について



特集／局所療法

JOHNS, 1985 Vol.1

扁桃炎／扁桃周囲炎の局所療法：形浦昭克

陰窩洗浄、扁桃吸引法、扁桃処置に関して



特集・耳鼻咽喉科外来診療 - 私の工夫 -

MB ENT, 2010 No.113

扁桃と上咽頭処置：原湊保明

膿栓は口臭の原因になる

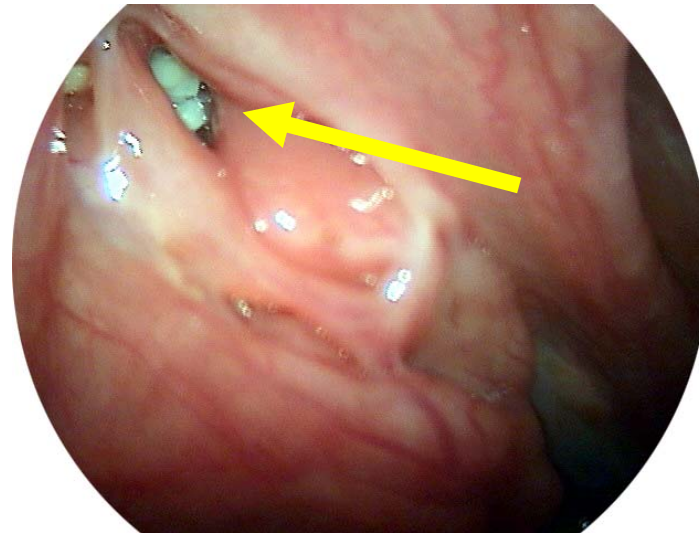
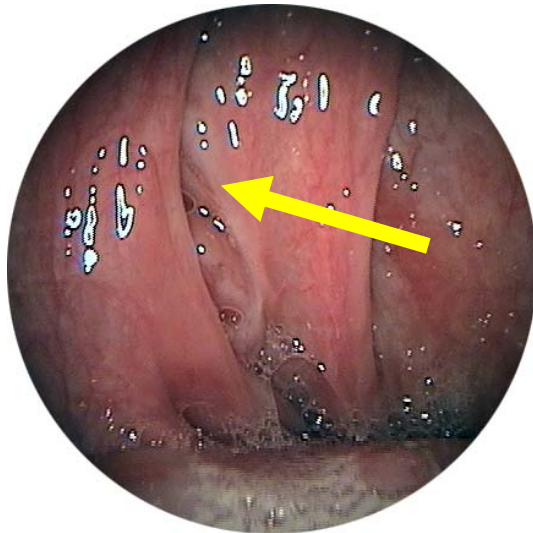
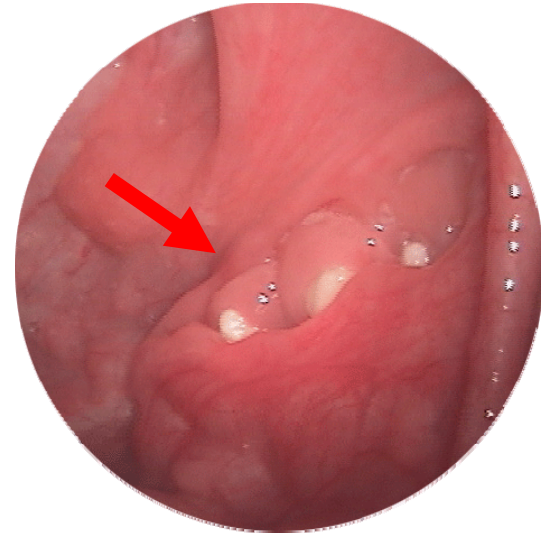
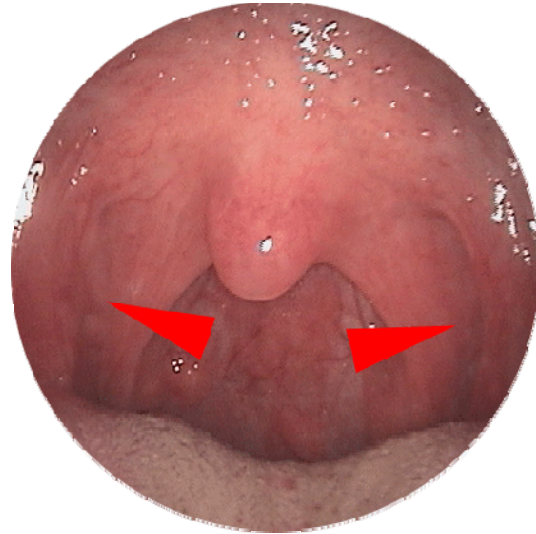
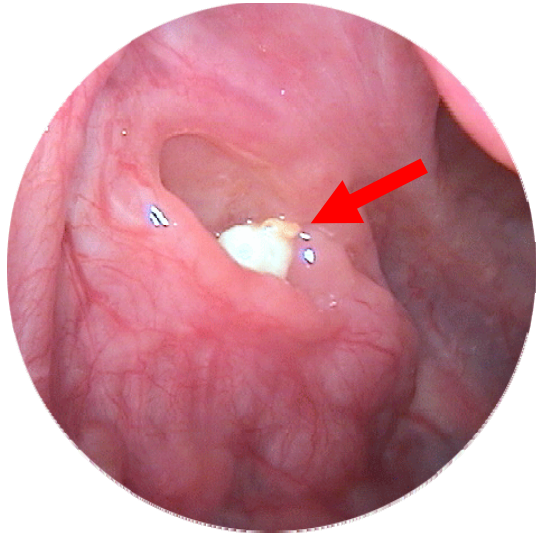
Paparella MM: Otolaryngology. 288-290, WB Saunders, Philadelphia, 1973

日本歯科評論2006, 115-118

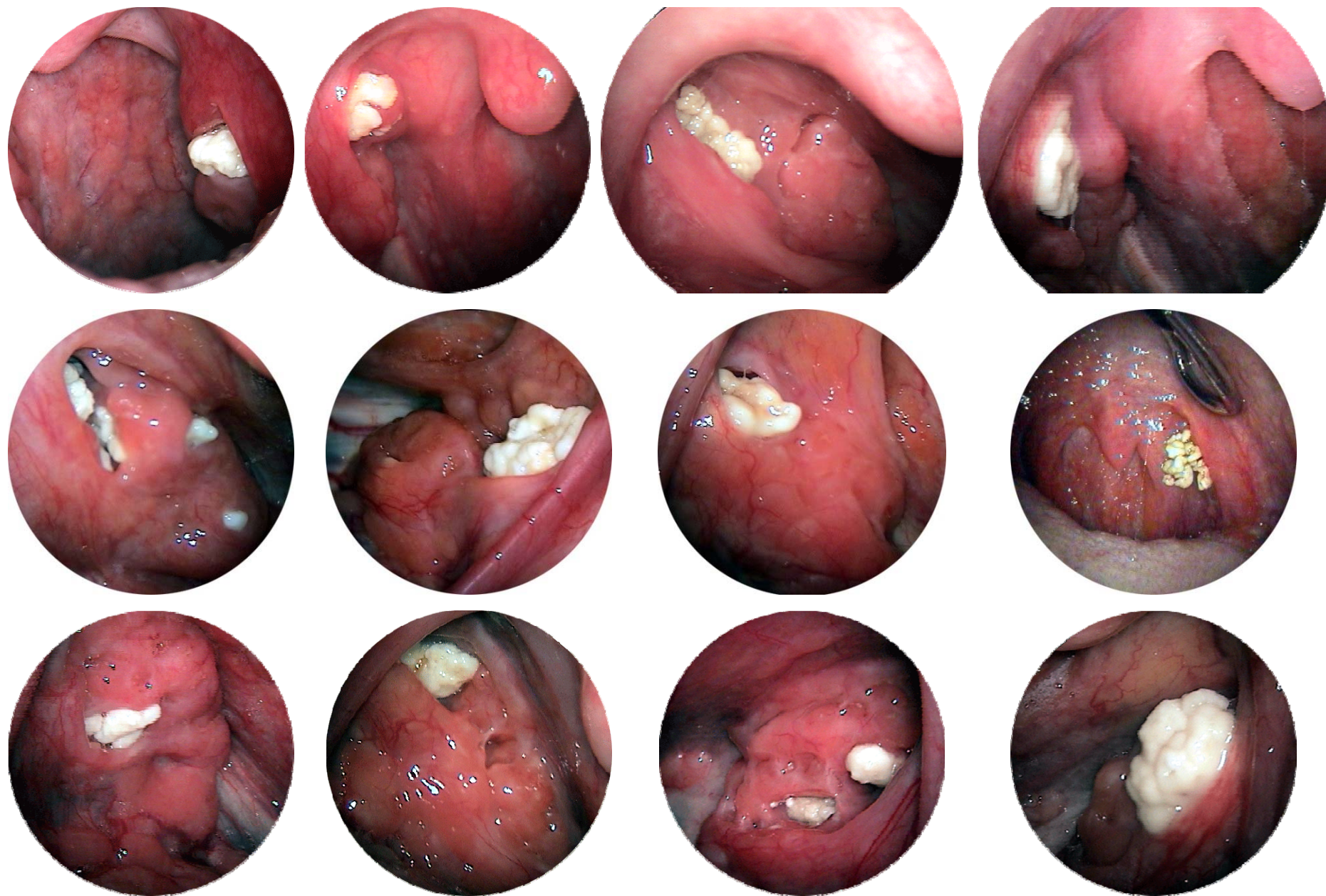
歯科にも求められる「膿栓」への対応：恒石美登里

硬性の側視内視鏡で膿栓を確認

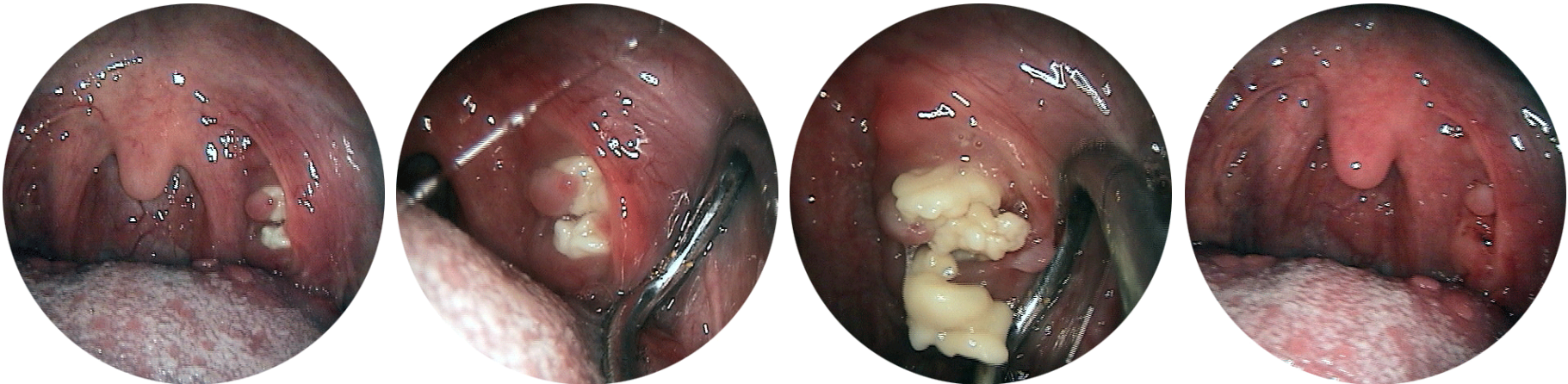
舌を引き出し、前・後口蓋弓に挟まれた扁桃洞を開く



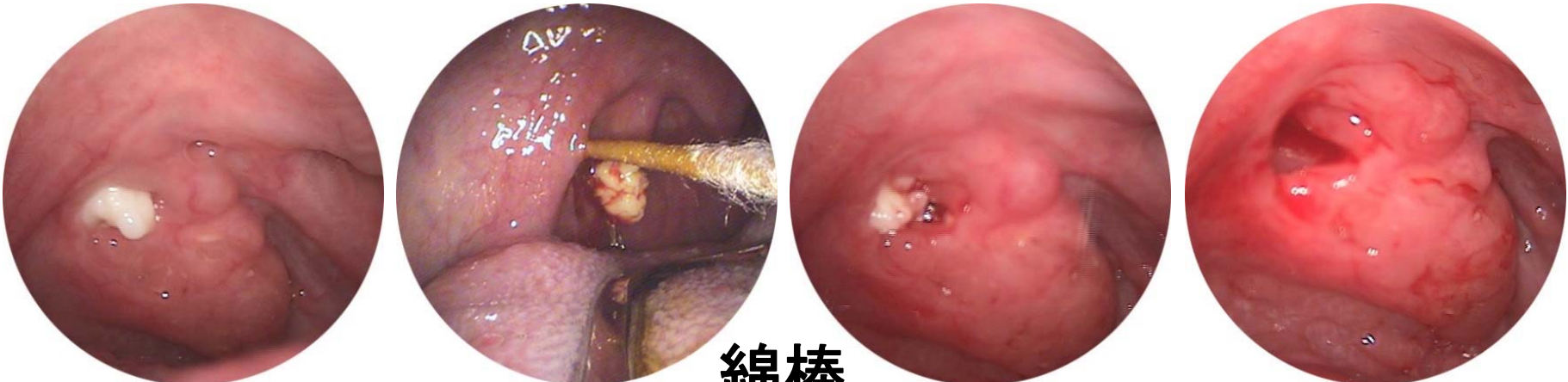
扁桃膿栓症 様々な所見



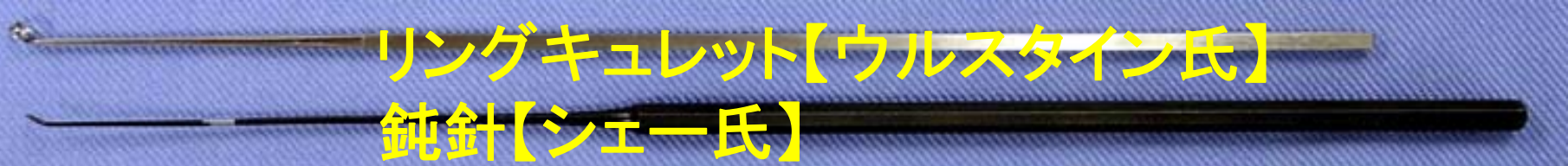
膿栓の除去



チェルマック舌圧子



綿棒

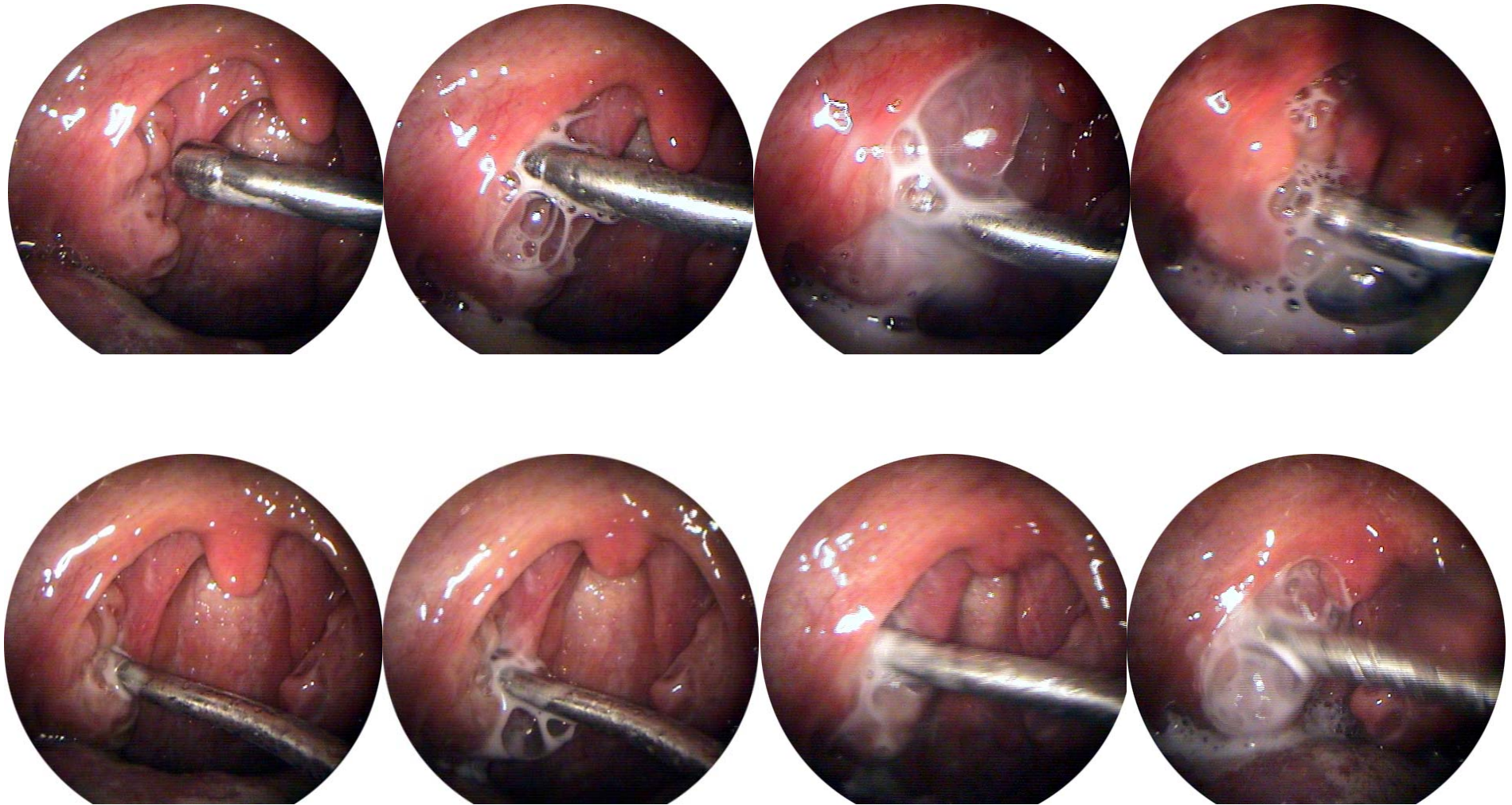


リングキュレット【ウルスタイン氏】
鈍針【シェー氏】

陰窩洗滌器と喉頭スプレー



喉頭スプレーによる陰窩洗浄

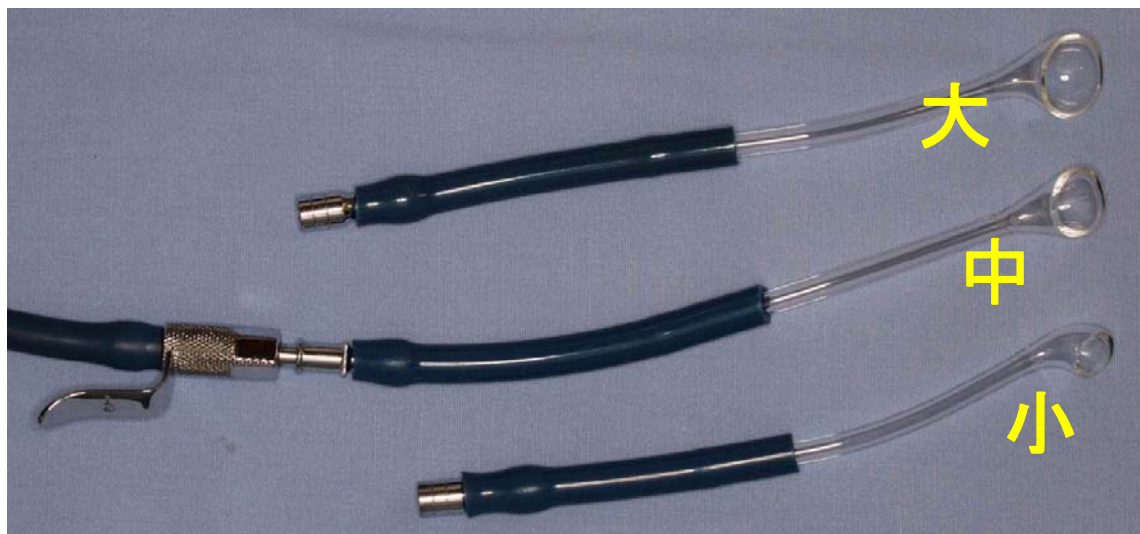
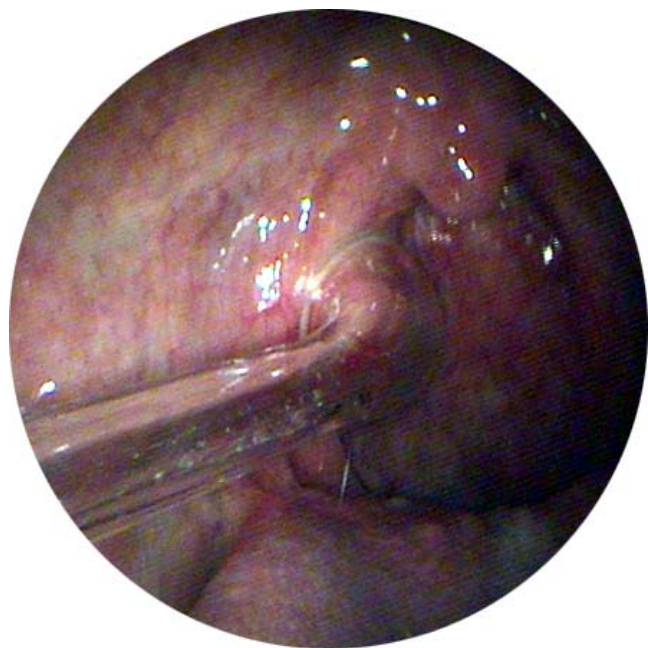


喉頭スプレーによる陰窩洗浄

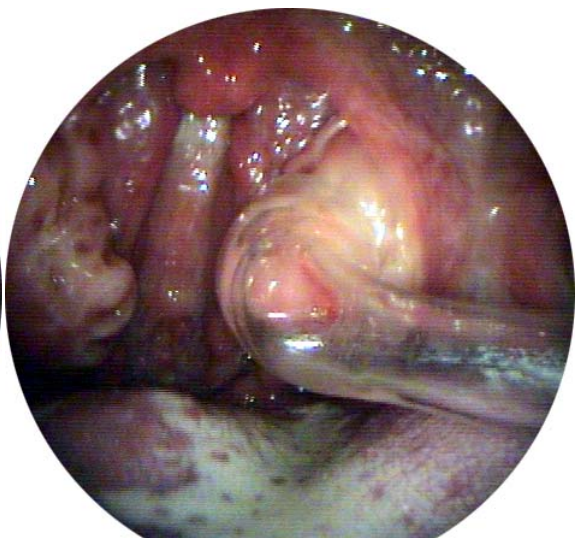
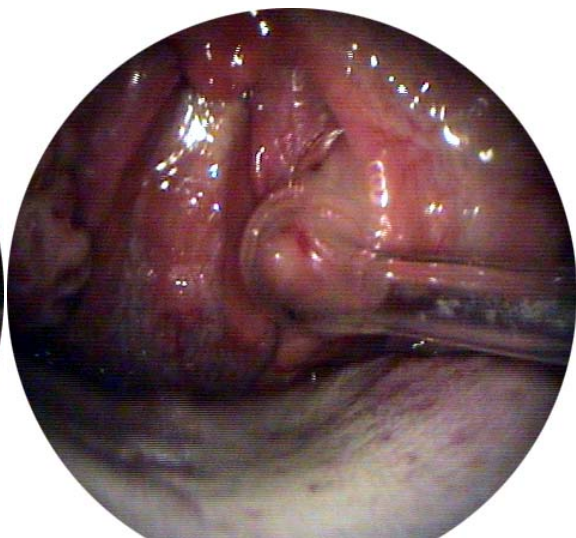
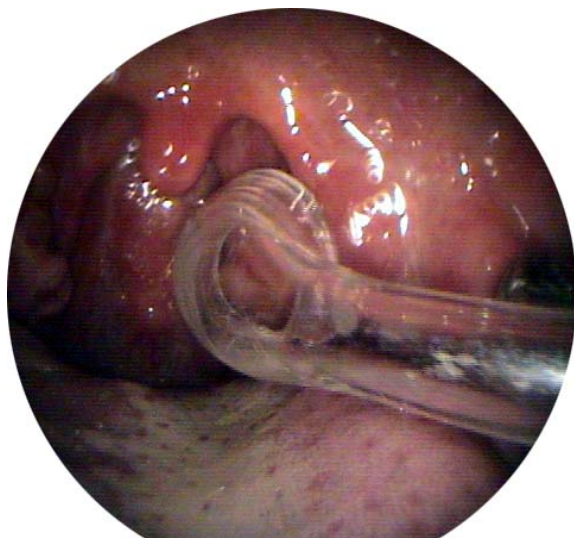
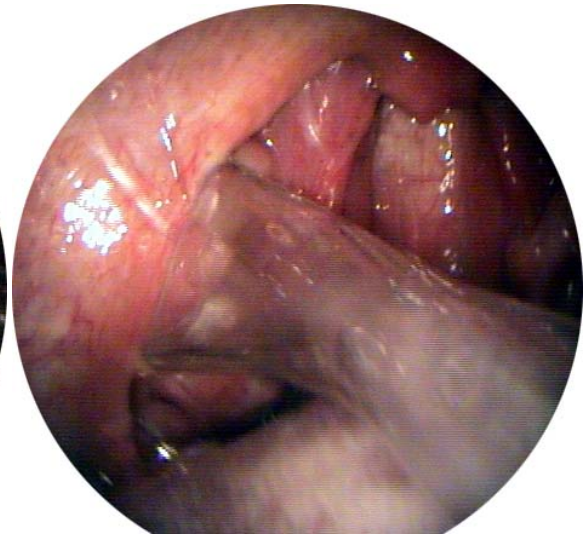
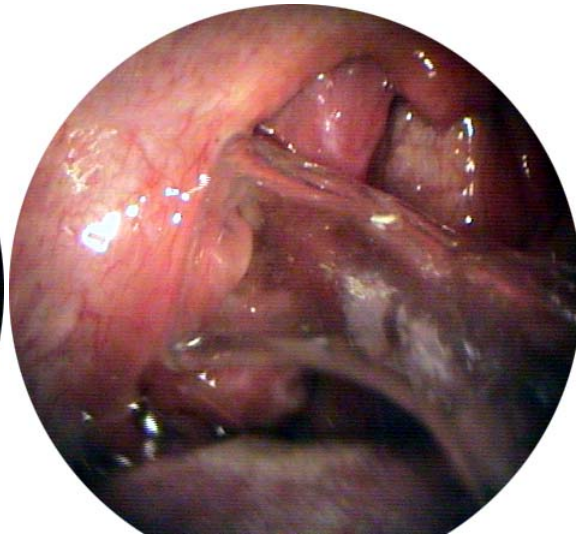
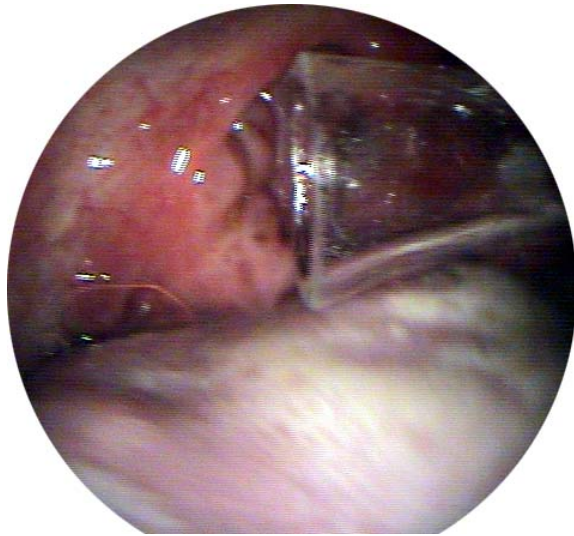
- 洗浄液圧が適度
- スプレー先端が太く、安全
- 陰窩の膿栓を効率よく流出させる
- 洗浄液量が少ないので、苦しくない
- 患者毎にスプレー先端を取り替えるだけなので、**外来診療の流れを妨げない**

- 洗浄だけで取り切れない、小さな陰窩に埋没する膿栓は、レーダー氏吸引管を用いて除去する

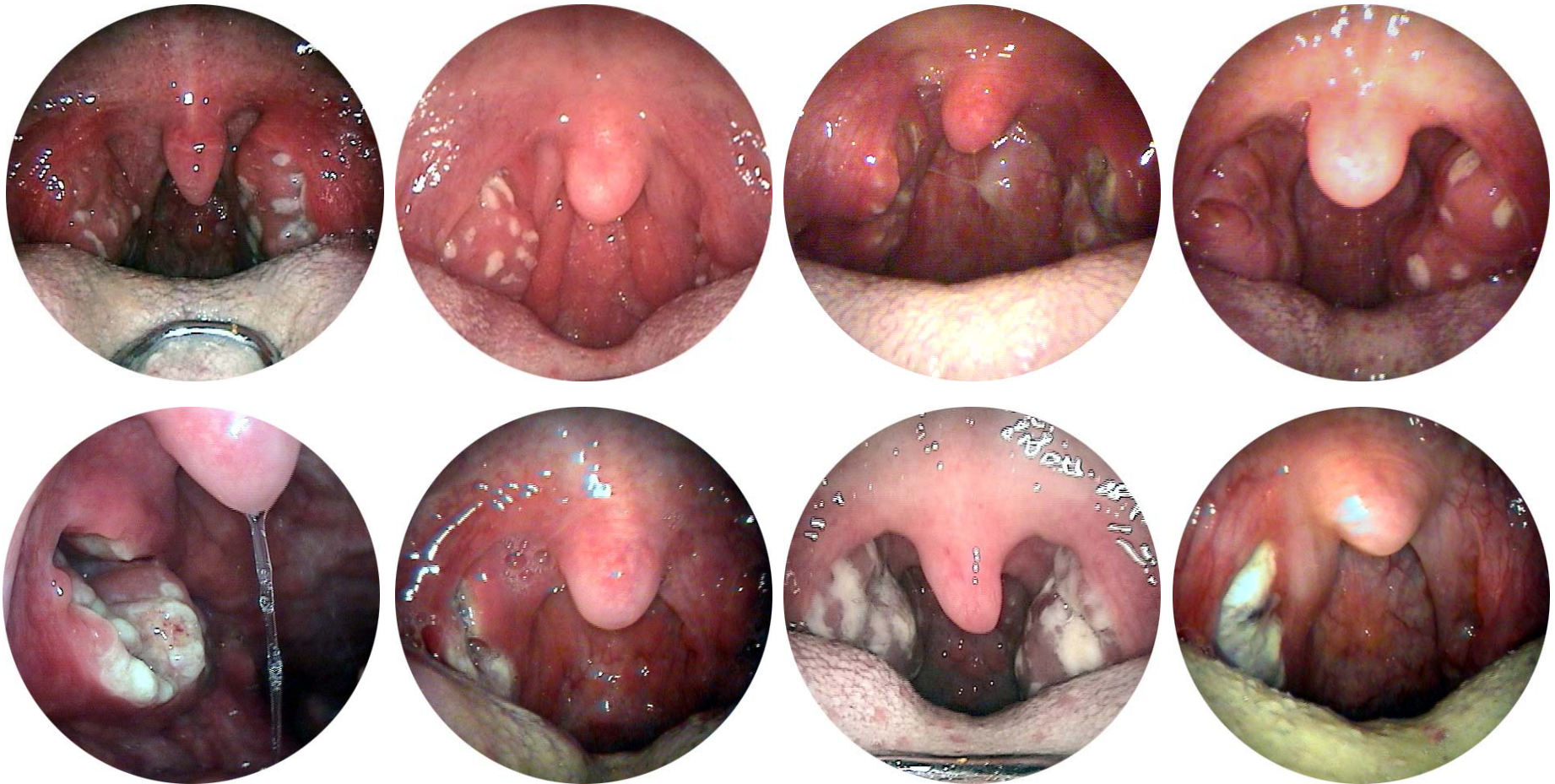
レーダー氏扁桃吸引管



口蓋扁桃の陰窩吸引



急性腺窩性、濾胞性、偽膜性、壊疽性扁桃炎、
溶連菌感染症、伝染性単核球症などに扁桃処置は？
保険診療上は、適応ということだが、、



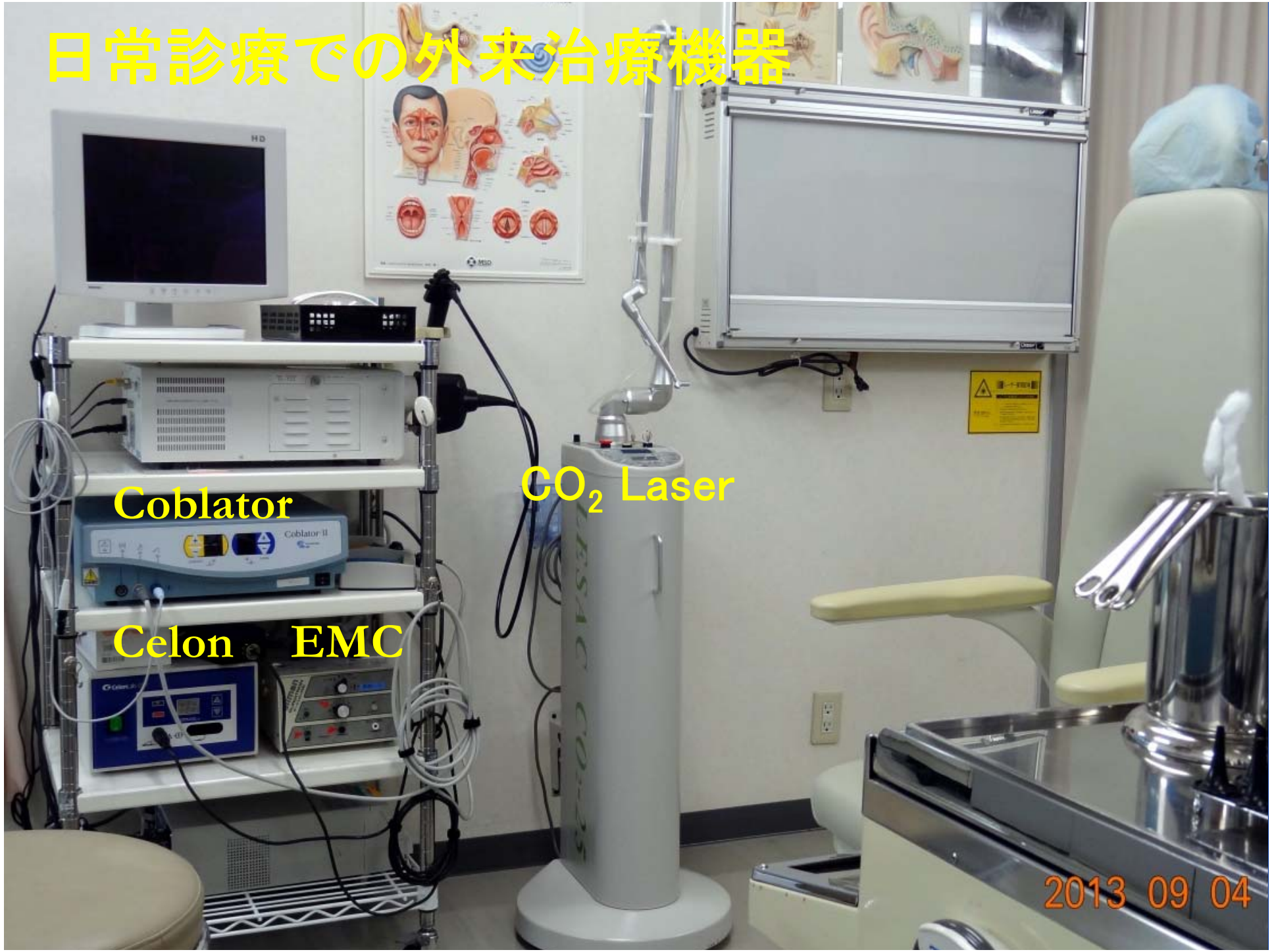
日常診療での外来治療機器

Coblator

CO₂ Laser

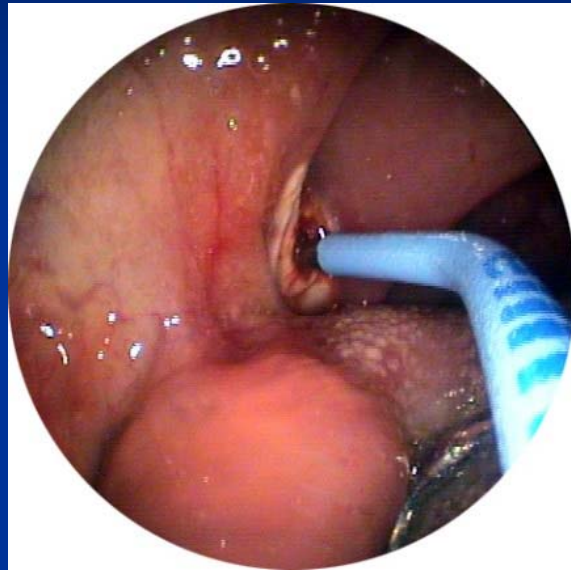
Celon EMC

2013 09 04

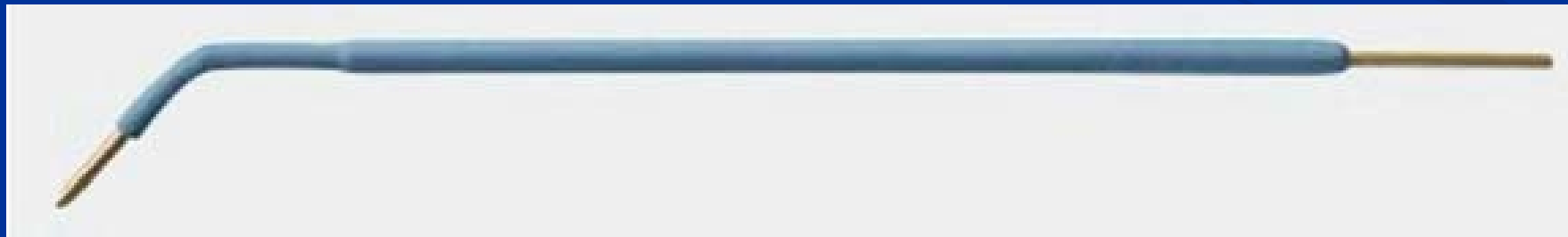


サージトロンによる扁桃ラジオ波凝固治療

扁桃切除術 tonsillotomy 陰窩切除術 cryptectomy



扁桃陰窩凝固用電極



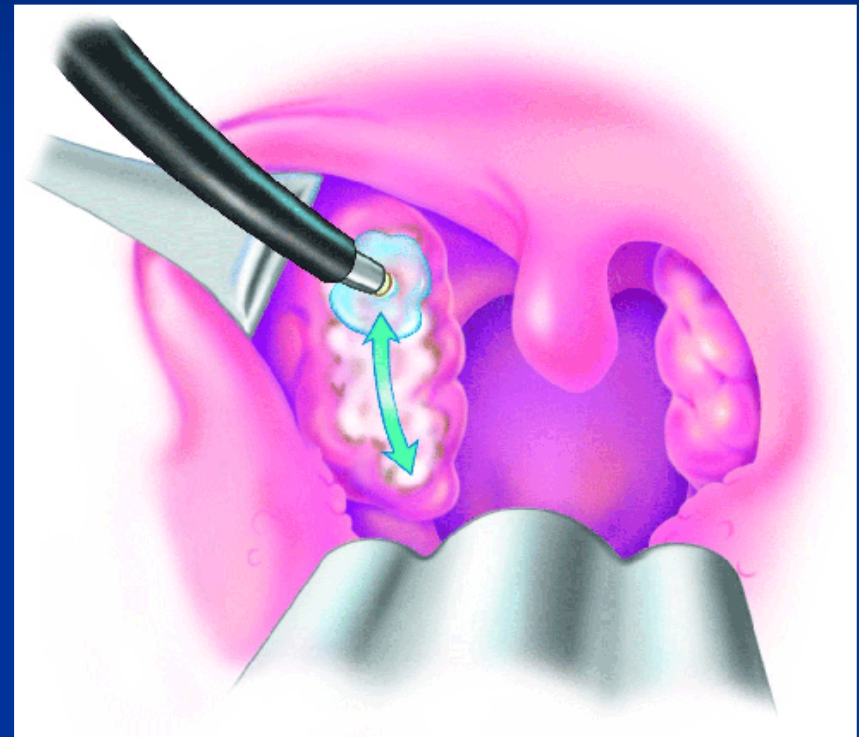
ラジオ波凝固治療 コブレーターⅡ

ラジオ波による肥大組織減少 RFVTR

Radiofrequency volumetric tissue reduction



特殊な電極針(ワンド)を使用
40~50°Cの低温で処理
術後痛軽い、治癒早い
100kHzの凝固と切開



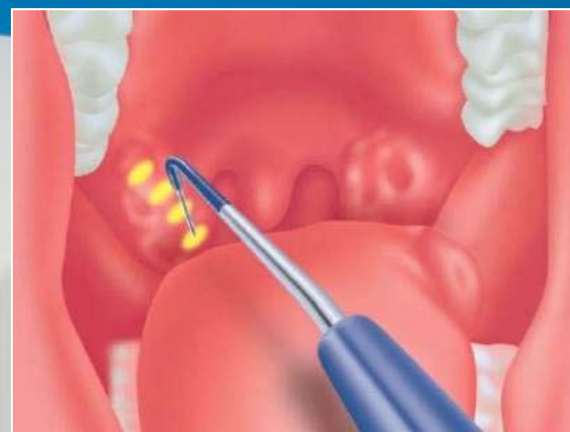
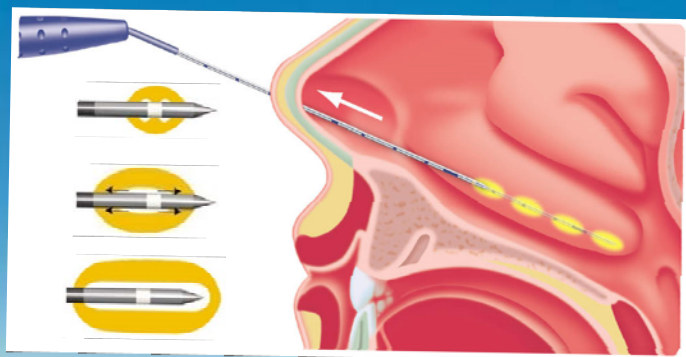
扁桃表層面の凝固治療

Evac 70 Xtra IC Wand

ラジオ波凝固治療 Celon ENT

ラジオ波誘起熱治療 RFITT

Radiofrequency induced Thermotherapy



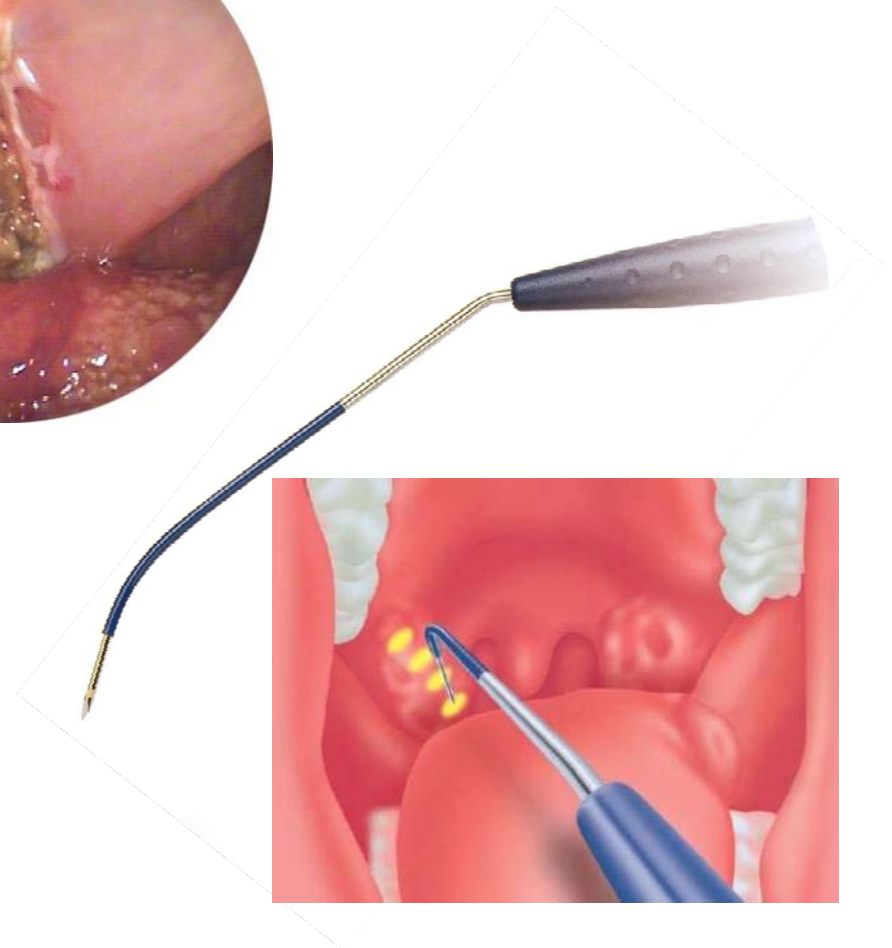
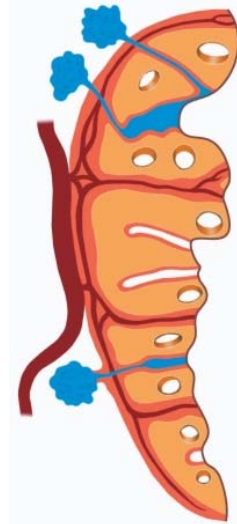
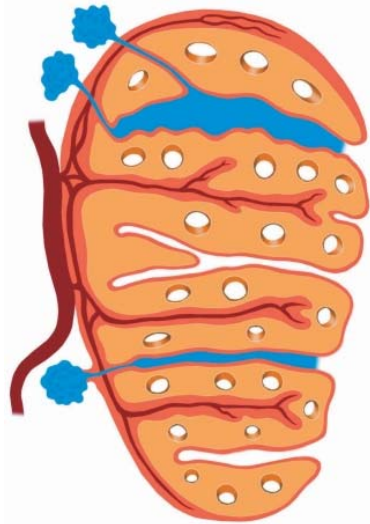
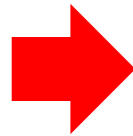
470KHz バイポーラ単一針(径1.3mm)

刺入容易な双極単一針で、手技の巧拙に差がない

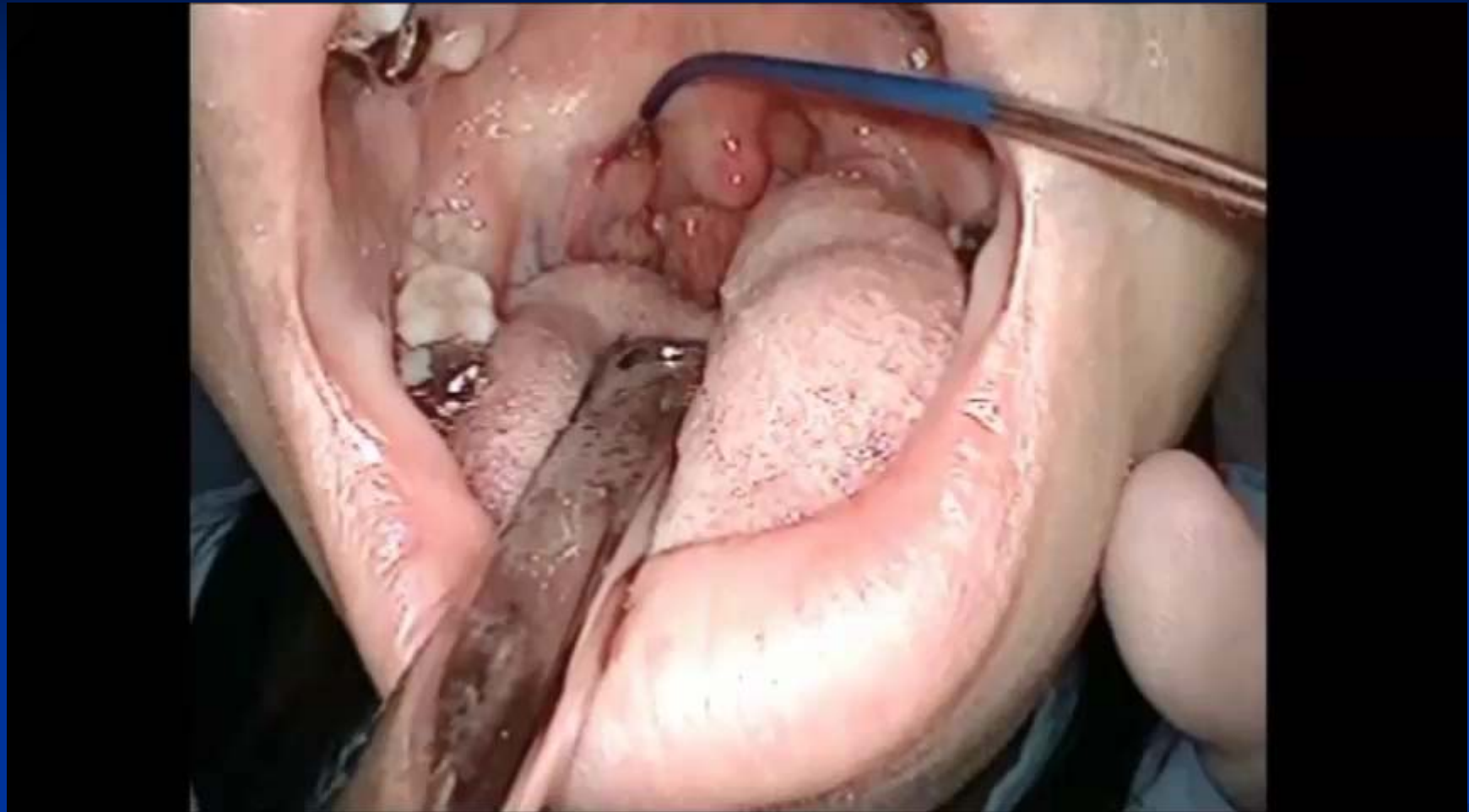
Celonによる扁桃ラジオ波凝固治療

扁桃切除術 Tonsillotomy

陰窩切除術 Cryptectomy (Diathermocryptectomy)



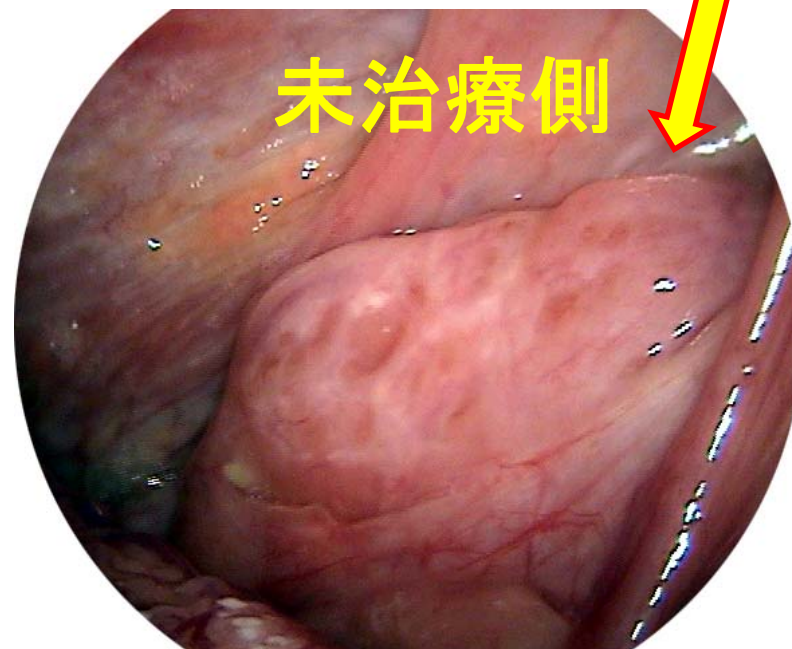
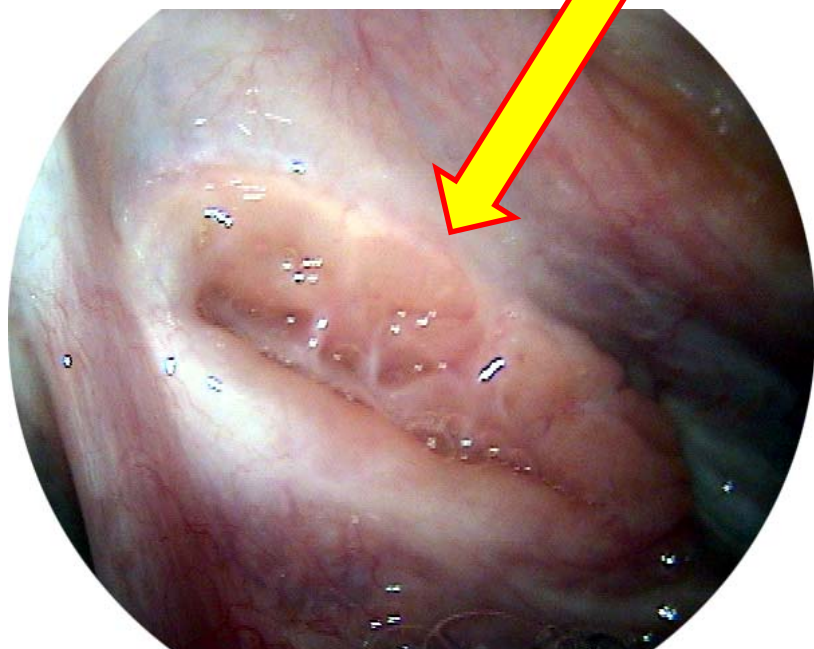
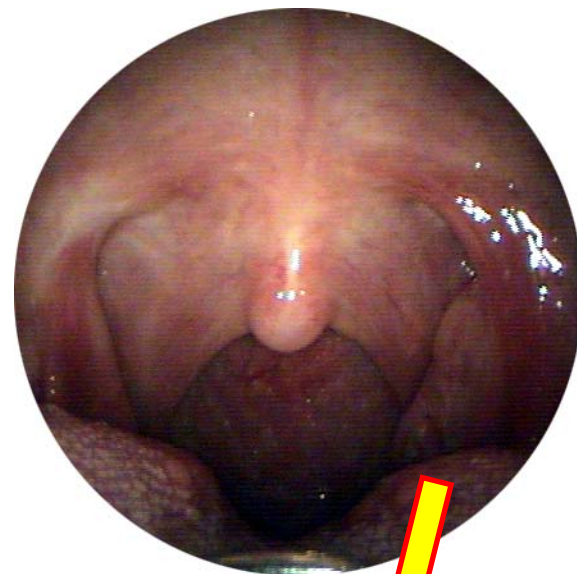
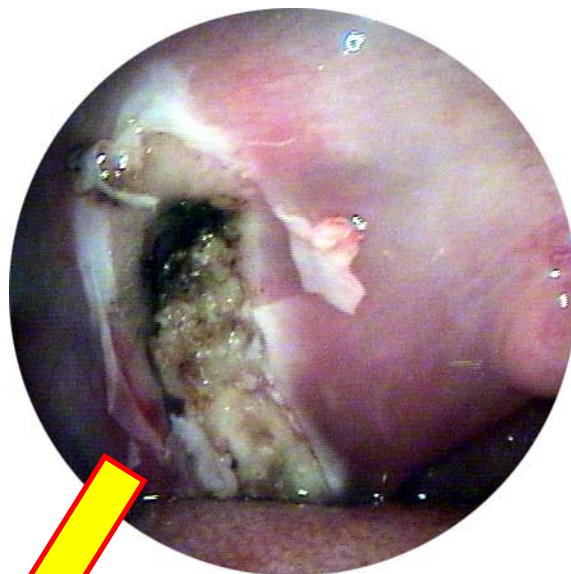
口蓋扁桃ラジオ波凝固治療



扁桃切除術 Tonsillotomy

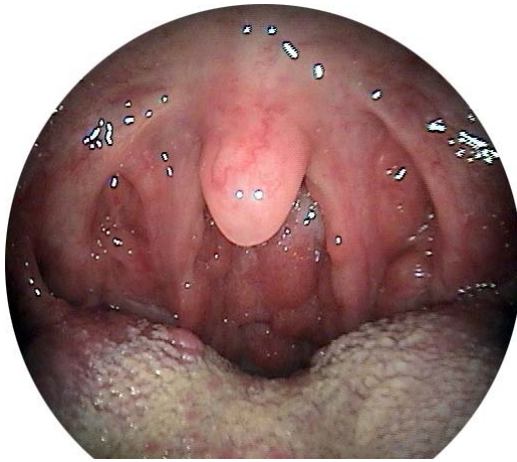
陰窩切除術 Cryptectomy (Diathermocrptectomy)

扁桃ラジオ波凝固治療の効果



未治療側

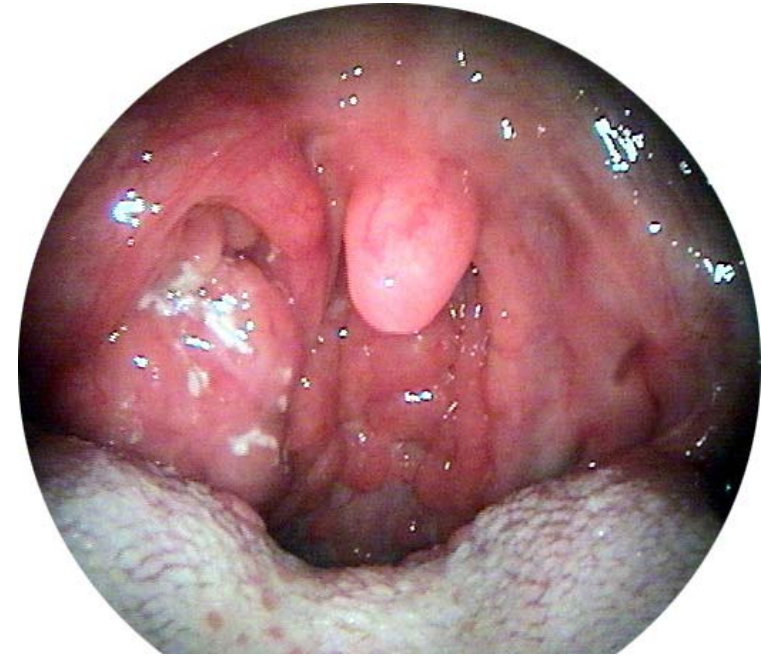
習慣性扁桃炎にラジオ波凝固治療は有効？



術前



術直後



扁桃炎を繰り返している、扁桃膿栓症のケース
左扁桃ラジオ波治療の3ヶ月後、急性扁桃炎を発症
未治療の右扁桃だけに炎症が起きている

術中・術後の注意点

- 手術操作

 - プローブを刺入する深さ

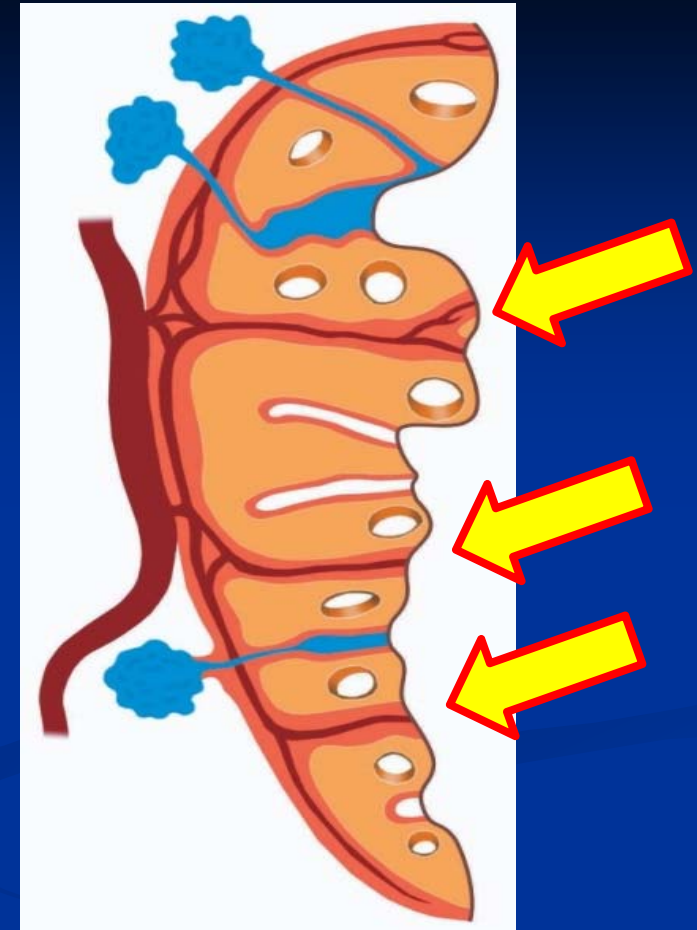
- 術後痛

 - 術後5日間、抗生剤と消炎鎮痛剤

- 術後出血

 - 術後晩期出血に注意

 - 扁桃の壊死・脱落は1週間～10日



術後出血 915側 (487例)中 3例 2001.3.6～2014.5.31

術後7～10日、全例男性、暴飲暴食歴あり

1例は経過観察入院、2例は外来で凝固止血

扁桃膿栓症への対応について

- 扁桃膿栓症の内視鏡による診断
- 扁桃処置（陰窩洗浄と扁桃吸引）の適応症と効果的な実施法
- 根治には扁桃摘しがないが、患者・医師共に膿栓の理由だけでは、躊躇することがある
- 外来で出来る保存的手術として、侵襲の少ない、ラジオ波凝固治療を提示した