Micro-Bipolar Tonsillectomy

The combination of the microsurgical method using a microscope together with bipolar coagulation for tonsillectomy was first described by Andrea (1). Significant reduction in postoperative morbidity has been reported. A modified technique with similar success uses a new instrument which incorporates not only precise bipolar coagulation, but also suction and excellent dissection capabilities. The use of a magnification device, such as loupes lenses or a microscope further enhances control during the intervention. Tonsillectomies can be performed very fast with little, but precise and effective bipolar electrocauulation while most of the dissection is ‘cold’ or ‘blunt’. Often, the glossopharyngeal nerve can be identified and spared.

Andrea reports excellent results with a method dubbed ‘microbipolar tonsillectomy’ [1]. He uses regular bipolar forceps for tonsillar dissection under magnification with the microscope. Encouraged by our own results using the Andrea technique, we have developed a new kind of clamp that offers several functions in one instrument: Grasping, dissection, bipolar coagulation, and extracting blood and smoke by suction (To-BiTE™ clamp, Select-Sutter, Germany). Both branches are connected via a joint similar to that of scissors or graspers allowing to actively open and close the instrument.

While the capsule of the tonsils and the surrounding tissue are separated, vessels are visually identified and sealed with bipolar current before retracting into the muscles. We use the Andrea approach to dissection of the tonsils starting with the inferior pole. Often the glossopharyngeal nerve can thus be identified and spared, which prevents damage to the gustatory senses (Fig. 3).

In surgical practice, it is not absolutely necessary to use an operating microscope for magnification. However, magnification greatly helps identifying even small vessels before they are separated (Fig. 4). As this is a vital component of this surgical approach, some type of magnification, such as loupes lenses, should be employed.

Loup lenses are less cumbersome and offer greater freedom of movement. The magnification is sufficient to adequately visualize all relevant structures. Magnification is capable of significantly improving the outcome of such a ‘simple’ procedure as a tonsillectomy.

In a series of more than one hundred tonsillectomies, this special approach generally resulted in little postoperative pain, hardly any bleeding during surgery as well as a significant reduction of postoperative bleeding. This confirms earlier findings on microbipolar tonsillectomy [1,2]. Major vessels could be sealed prior to cutting. In many cases we were able to preserve the glossopharyngeal nerve.

The newly designed To-BiTE™ clamp combining four functions in one instrument is a safe and effective tool for performing tonsillectomies. Vis-à-vis the traditional approach it seems to make tonsillectomies faster and easier, especially when combined with a magnification tool such as a microscope or loupes.

References:

More information on the To-BiTE™ bipolar clamp: www.select-sutter.com

Figure 2: tonsillar dissection

Figure 3: Identification of the glossopharyngeal nerve

Figure 4: small vessel before coagulation

Figure 5: Wound immediately after tonsillectomy

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