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REVIEW

Ambulatory thyroidectomy: Recommendations from the Association Francophone de Chirurgie Endocrinienne (AFCE). Investigating current practices

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Hypocalcemia

Summary
Background: Cervical hematoma with airway compromise is a severe complication that may be rapidly lethal or result in irreversible cerebral anoxia if the hematoma is not urgently decompressed. It is therefore indispensable to know the essential relevant elements as well as predictive criteria for this complication before envisioning ambulatory thyroidectomy.
Methods: The Association francophone de chirurgie endocrinienne (AFCE) sought to answer several questions raised by the proposal of ambulatory thyroidectomy and to propose recommendations based on a review of the literature, an inquiry sent out to members of the AFCE, and an in-depth research of the medicolegal risks involved, based essentially on jurisprudence. The details scrutinized included preoperative selection criteria, the characteristics of the operation and the basic elements of postoperative surveillance.
Conclusions: The standard today is at least an overnight hospital stay. In fact, hospital stay can be less than 24 h because the risk of cervical compressive hematoma is very unusual beyond this interval. Ambulatory (outpatient) thyroidectomy (0 nights) is possible under certain conditions for highly selected patients according to criteria described in the literature that also define relative contra-indications. In case of life-threatening or functional complications, the surgeon stands first in the line of responsibility. The surgeon must therefore ensure that the patient and family were fully informed of the contra-indications, the normal course of postoperative events, of pertinent elements of postoperative surveillance and of the conditions under which the patient can be safely discharged. The surgeon must also realize that this type of management is time-consuming.

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Introduction

Thyroid surgery adheres, at least in theory, to a certain number of medical criteria which may authorize ambulatory surgery: thyroid surgery is not very psychologically demanding, nor very painful, especially with current well established postoperative analgesia programs; it can be considered at low risk for bleeding, especially with new highly reliable coagulation protocols, and the operation in relatively short, rarely exceeding 3 h. Thyroid surgery does, however, carry some specific risks, even though the postoperative mortality has decreased enormously; the current overall complication rate is between 20 and 30% with a 2 to 4% rate of permanent sequelae. Considering budget constraints in health care institutions, it seems legitimate to consider the feasibility of ambulatory thyroidectomy, keeping in mind that patient comfort and security remain the principal objectives.

More than 25 years after its initial description [1], performance of ambulatory thyroidectomy is still rare (1% in Great Britain in 2005 [2]) even though more than 3000 such procedures have been reported, chiefly in the United States [3—7]. Reluctance runs high on the part of surgeons and even patients.

A large part of the reluctance on the part of surgeons comes from the difficulty in interpreting the published literature, and because of the variations in the populations under study with a frequent selection bias [7], of the definition of ambulatory surgery itself (no overnight stay and less than 6 h in hospital, or overnight stay with less than 24 h in hospital), as well as discharge conditions, ranging from discharge to home, or to a nearby hotel or convalescence structure close to the locality where the operation took place. Surgeons are cautious with regard to the risks for the patient as well as for themselves (medicolegal) in case of complications. Effectively, the particularity of thyroid surgery is that it exposes the patient to the rare but severe complication of compressive cervical hematoma, potentially rapidly lethal or leading to secondary irreversible cerebral anoxia unless immediate surgical re-exploration is performed. Other complications such as symptomatic hypocalcemia or recurrent laryngeal nerve palsy, while less severe for the immediate prognosis, may be particularly distressing for the patient.

Moreover, it is primordial to respect the comfort and desires of patients who might fear a painful surgical act or general anesthesia (used in almost all cases and often a source of emesis). As strongly and correctly emphasized by Orlo H. Clark, one of the deans of endocrinologic surgery in the United States, ''the basic rule we should all follow when treating our patients is to treat them the same way we would like to be treated'' [8].

There is no consensus in the literature and very few recommendations for best practice. Those of the Société française de chirurgie digestive (SFCD) and the Association de chirurgie hépatobiliaire et de transplantation (ACHBT) were published in 2011 [9]. These two societies do not recommend ambulatory surgery (0 nights) but qualify hospital stay of less than 24 h as ''reasonable''. The only learned society specialized in thyroid surgery to have published an official document on the topic, the British Association of Endocrine Surgeons (BAETS) is extremely prudent in their recommendations [10,11]: ambulatory thyroidectomy (0 nights) is feasible, but not specifically recommended. The recommendation insists on the experience of the surgeon and the paramedical teams managing patients in an ambulatory hospitalization unit, as well as the difficulties in establishing the predictive criteria for severe complications. The American Thyroid Association (ATA) has also recently published a declaration on ''outpatient thyroidectomy'' [12] with similar conclusions: ambulatory thyroidectomy can be performed in selected patients but the selection criteria are often difficult to establish because of the lack of reliable studies. The ATA emphasizes the responsibility of the surgeon and insists on the need for preoperative information to the patient and family concerning the modalities and the specific risks of this type of management, which may be very time-consuming.

As a specialized learned society, the Association francophone de chirurgie endocrinienne (AFCE) felt obligated to answer several questions raised by this type of practice and to propose recommendations based on a review of the literature, an inquiry of the physicians members of the AFCE, and a thorough search of the medicolegal implications.

A bibliographic search was conducted in the English and French literature using the Medline and Cochrane libraries with the following keywords: ''thyroidectomy'', ''outpatient'', ''same-day thyroid surgery'' and ''complications''.

Finding no prospective randomized studies, we privileged literature reviews and large series clearly defining ambulatory management and post-thyroidectomy complications. The levels of evidence provided by the literature and grades of recommendation were made according to the French Haute Autorité de santé (HAS) (grade A: established scientific proof; grade B: scientific presumption; grade C: low level of evidence) (www.has-sante.fr). This manuscript was then drawn up and circulated among the members of the executive committee of the AFCE, before arriving at the current final text.

Are there any specific characteristics of thyroid surgery that could modify the indications and/or the risks of ambulatory surgery?

The major risks of thyroid surgery are rare, but they can be life-threatening.

The prevalence of postoperative complications is now well established [13].

Some of these complications should not contraindicate an eventual ambulatory surgery: unilateral recurrent nerve palsy, while a serious handicap, is not immediately life-threatening (2%), bilateral recurrent nerve palsy (0.2%) is obvious immediately because the patient sustains acute asphyxia as soon as the endotracheal tube is removed, and hypocalcemia due to parathyroid injury (15 to 20% immediately postoperative, 2% permanent) is rarely symptomatic initially and only exceptionally results in severe manifestations such as muscular tetany or cardiac rhythm disorders. These complications, whenever they arise, should of course delay patient discharge if ambulatory management had been planned.

The major risk is the onset of compressive cervical hematoma, the prevalence of which is low, approximately 1% (0.4%—4.2%), but for which the consequences can be tragic [14]. It is this specific risk that creates the major contraindication for ambulatory thyroid surgery. Most postoperative hemorrhagic events (40 to 60%) occur within the first 6 h [15], but have been reported to appear beyond