INTERSPECIALTY AND INTRASPECIALTY DIFFERENCES IN THE MANAGEMENT OF THYROID NODULAR DISEASE AND CANCER

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Accepted 1 December 2004
Published online 6 May 2005 in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/hed.20187

Abstract: Introduction. The management of thyroid cancer includes multiple medical specialties. Physicians from different specialties may vary in opinion regarding the optimal investigation and treatment of patients. Little data exist evaluating the differences within or between various specialties treating thyroid disease. This study aims to examine responses from a variety of specialty physicians closely involved in the medical or surgical management of thyroid disease to provide evidence as to whether any difference exists.

Methods. A cross-sectional survey of attendees at the 5th Biennial Course on the Management of Thyroid Nodular Disease and Cancer was conducted using an anonymous electronic touch pad system. Touch pads were given to 213 attendees who were asked to respond to 44 questions. This study analyzes the responses obtained from 19 selected questions (43%) and compares the results between endocrinologists (n = 48), general surgeons (n = 41), otolaryngologists (n = 61), and pathologists (n = 20).

Results. Responses were obtained from 69% of endocrinologists, 68% of general surgeons, 72% of otolaryngologists, and 65% of pathologists. Statistically significant interspecialty differences were observed in 12 (63%) of 19 questions. Each question and a summary of responses from all touch pads were recorded.

Conclusions. Significant differences in the attitudes toward, and presumably the practice of, managing thyroid nodular disease and cancer exist between specialties. An understanding of these differences is helpful when working as a multidisciplinary team to optimize patient care. © 2005 Wiley Periodicals, Inc. Head Neck 27: 513–524, 2005

Keywords: thyroid cancer; interspecialty; trends in management; differences between specialties

Attitudes and practices in medicine are influenced by biases developed during training, from self-education, and from experience gained during practice. Practice can vary widely within each specialty and even more dramatically among differing specialties.1–5 In the management of thyroid disease, this observation is based predominantly on anecdote because of the rarity of scientific evidence. The investigation and treatment of thyroid neoplasia cross the boundaries of several medical specialties and subspecialties. In any multidisciplinary setting, understanding the opinions and practices of other medical specialties is important to optimize patient care. This study aimed to evaluate the degree of variation in the management of thyroid disease both within and between specialties that are closely involved in a secondary or tertiary care setting.

METHODS

Data for this study comes from attendee responses obtained at the 5th Biennial Course on Management of Thyroid Nodular Disease and
Cancer conducted at Mt. Sinai Hospital, Toronto, Canada. There were 228 registrants and 27 faculty members, giving a total of 255 attendees. Attendees were given a series of 44 multiple-choice questions with two to six answers posed in the form of either a direct question or case vignette. This was conducted at intervals as part of the scheduled program over the course of 2 days. Responses to questions were obtained using an anonymous electronic touch pad (ETP) system. The touch pads were distributed in a random fashion to 213 attendees at the beginning of each day. Because not all questions were relevant to, or answered by, all attendees, the number of responses to each question varied from 89 to 164. Demographic data were calculated on the basis of registration forms before the course and the responses of attendees obtained during the proceedings. The distribution of attendees by specialty according to registration and ETP response is given in Table 1. The distribution by age and sex according to ETP response is given in Table 2.

Of the 44 questions, 19 were selected by the authors to be analyzed in this study. The questions are grouped into three categories: preoperative investigation \((n = 7)\), operative intervention \((n = 6)\), and postoperative management \((n = 6)\). During the thyroid course, some questions preceded and others followed didactic and/or interactive sessions given by the international or local faculty. Responses to questions were tabulated using an electronic database in real time and were broken down according to specialty, age, sex, and geographic distribution. Overall responses and selected distributions were fed back to the attendees after each question to allow for discussion.

In this study, the question (in italics), potential responses (a–f), and a summary of responses to each question is provided. The response is then divided according to subspecialty, of which the authors have included endocrinology (EC), otolaryngology (ENT), general surgery (GS), and pathology (PT). Statistical analysis was performed with SPSS (version 11) software, and nominal data were compared by use of the chi-square test. The \(p\) value corresponds to the null hypothesis that all specialties belong to the same parent population for each question. After each question, a brief comment is made to summarize the result.

### RESULTS

#### Preoperative Assessment.

1. **Thyroid ultrasound is a good test to perform on all patients with a solitary nodule.**

   a. Yes
   b. No

#### Overall Response.

a. 75%; range, 67% (EC) to 80% (ENT)

b. 25%; range, 20% (ENT) to 33% (EC)
Comment. Most physicians agreed that ultrasoundography was a useful investigation. There was no statistical difference between specialties ($p = .59$).

2. In a 30-year-old woman with no other risk factors, a thyroid ultrasound study confirms a 2-cm solitary, solid thyroid nodule. My next test is:

a. Fine-needle aspiration (FNA)
b. Radionuclide scan
c. Repeat ultrasound in 3 months with a course of thyroid suppression
d. All of the above

Overall Response.

a. 88%; range, 82% (GS) to 93% (ENT)
b. 7%; range, 5% (ENT) to 8% (PT)
c. 1%; range, 0% (GS, ENT, PT) to 3% (EC)
d. 4%; range, 0% (PT) to 11% (GS)

Comment. Most physicians agreed that FNA was the appropriate initial investigation. There was no significant interspecialty difference ($p = .64$).

3. In a 30-year-old woman with no other risk factors, the FNA is “suspicious” for papillary carcinoma. I would proceed to:

a. Partial (hemi) thyroidectomy
b. Partial thyroidectomy with intraoperative frozen section, proceeding to total thyroidectomy for carcinoma
c. Subtotal or “near-total” thyroidectomy
d. Total thyroidectomy
e. Speak to the cytopathologist to ascertain what “suspicious” means

Overall Response.

a. 16%; range, 8% (PT) to 36% (GS)
b. 32%; range, 29% (GS) to 51% (PT)
c. 7%; range, 0% (PT) to 9% (EC)
d. 26%; range, 14% (GS) to 30% (EC)
e. 20%; range, 16% (ENT) to 23% (PT)

Comment. There was a wide distribution of responses in all specialties; however, “sub- or near-total” thyroidectomy was not popular (0% to 9%). Pathologists had the highest proportion recommending intraoperative frozen section (54%) and discussion with the cytopathologist (23%); however, there was no statistical difference ($p = .37$).

4. In a 30-year-old woman with no other risk factors, a 2-cm thyroid nodule is positive on FNA for papillary carcinoma. My next step is:

a. Thyroidectomy
b. Neck ultrasound
c. CT without contrast
d. CT with contrast
e. MRI scan
f. PET [Positron emission tomography]-CT fusion scan

Overall Response.

a. 77%; range, 77% (PT) to 88% (EC)
b. 12%; range, 7% (ENT) to 15% (PT)
c. 3%; range, 0% (EC, PT) to 4% (GS)
d. 4%; range, 0% (EC, PT) to 7% (GS)
e. 2%; range, 0% (EC, GS, ENT, PT)
f. 2%; range, 0% (EC, GS, ENT) to 8% (PT)

Comment. Most physicians indicated that preoperative imaging was not their practice in this routine scenario. There was no significant interspecialty difference ($p = .32$).

5. A 39-year-old woman undergoes neck ultrasound because of a sensation of a “lump in her throat.” A single, 0.7-cm, solid nodule is identified in the left lobe of the thyroid. My next step is:

a. Repeat ultrasound in 6 months
b. Thyroxine suppression
c. Ultrasound-guided FNA
d. Thyroidectomy
e. Radionuclide scanning

Overall Response.

a. 74%; range, 70% (ENT) to 88% (EC)
b. 1%; range, 0% (EC, ENT, PT) to 4% (GS)
c. 24%; range, 8% (PT) to 30% (ENT)
d. 1%; range, 0% (EC, GS, ENT) to 8% (PT)
e. 1%; range, 0%

Comment. Most physicians in all specialties stated that ultrasound surveillance alone was recommended in incidental thyroid nodules. However, otolaryngologists were more likely (30%) to perform guided FNA than other specialties (8% to
The difference reached statistical significance ($p = .05$).

6. The FNA done in your office on a 55-year-old woman with a 3-cm left thyroid mass is reported as “cyst contents.” My next step is:

a. Recall patient for repeat FNA in office
b. Ultrasound-guided FNA
c. Follow-up in 6 months
d. Thyroidectomy
e. Thyroxine suppression

**Overall Response.**

a. 10%; range, 0% (PT) to 16% (ENT)
b. 39%; range, 29% (GS) to 46% (PT)
c. 46%; range, 39% (EC) to 64% (GS)
d. 1%; range, 0% (EC, GS, PT) to 2% (ENT)
e. 4%; range, 0% (GS, PT) to 7% (ENT)

**Comment.** All specialties were divided between repeating the FNA (mainly under ultrasound guidance) and following the patient. There was no significant difference ($p = .50$).

7. A 40-year-old woman with a history of radiation for acne at age 14 years now has a 2-cm mass in the left lobe of her thyroid. My next step is:

a. FNA and further management based on the result
b. Partial thyroidectomy and frozen section
c. Partial thyroidectomy and wait for the final pathology
d. Total thyroidectomy
e. Radionuclide scanning

**Overall Summary.**

a. 58%; range, 39% (ENT) to 77% (PT)
b. 14%; range, 4% (GS) to 14% (ENT)
c. 9%; range, 0% (PT) to 14% (ENT)
d. 19%; range, 0% (PT) to 29% (GS)
e. 0%; range, 0%

**Comment.** Otolaryngologists were more likely to perform partial thyroidectomy (46%) with or without frozen section compared with other specialties (8% to 23%). General surgeons were more likely to proceed directly to total thyroidectomy (29%) compared with other specialties (0% to 15%). FNA was the most popular individual response in all groups (39% to 77%). The difference between each group reached statistical significance ($p = .01$) and is shown in Figure 1.

**Operative Management.**

1. In a 30-year-old woman with no other risk factors, a 4-cm thyroid nodule is positive on FNA for papillary carcinoma. I proceed to surgery and perform:

a. Partial thyroidectomy
b. Partial thyroidectomy and await final pathology
c. Partial thyroidectomy and frozen section to determine further intraoperative management
d. Total thyroidectomy

**Overall Response.**

a. 3%; range, 0% (EC, ENT) to 15% (PT)
b. 3%; range, 0% (EC, GS) to 8% (PT)
c. 13%; range, 9% (EC) to 18% (GS)
d. 82%; range, 62% (PT) to 91% (EC)

**Comment.** In all specialties, total thyroidectomy was the most frequent response, ranging from 62% to 91%. However, partial thyroidectomy as definitive management was advocated by 15% of pathologists compared with 0% to 4% of other specialties. The interspecialty difference trended toward, but did not reach, significance ($p = .056$).

2. What operation do you plan for a solitary thyroid mass with no major risk factors?

a. Partial thyroidectomy and proceed to total thyroidectomy depending on the intraoperative frozen section
b. Partial thyroidectomy and await final pathology
c. Total thyroidectomy
d. “Near-total” thyroidectomy

**Overall Response.**

a. 53%; range, 23% (PT) to 79% (EC)
b. 43%; range, 15% (EC) to 77% (PT)
c. 3%; range, 0% (ENT, PT) to 7% (GS)
d. 2%; range, 0% (EC, GS, PT) to 5% (ENT)

**Comment.** There was a significant difference between specialties ($p = .002$), with endocrinologists (79%) and otolaryngologists (57%) favoring intraoperative pathology compared with general sur-
3. A 32-year-old woman is seen with thyroid enlargement and bilateral palpable nodes at levels 2, 3, 4, and 5. Her FNA confirms papillary carcinoma, and preoperative CT scan shows mediastinal involvement. I proceed to surgery and perform:

a. Total thyroidectomy, bilateral node picking
b. Total thyroidectomy, bilateral radical neck dissection with preservation of one internal jugular vein and mediastinal dissection
c. Total thyroidectomy, bilateral conservation neck dissection and mediastinal dissection.

**Overall Response.**

a. 7%; range, 2% (ENT) to 31% (PT)
b. 5%; range, 0% (PT) to 15% (EC)
c. 88%; range, 69% (PT) to 95% (ENT)

**Comment.** All specialties favored a functional/conservation neck dissection and mediastinal clearance. Thirty-one percent of pathologists supported “node picking” compared with 2% to 6% of other groups. Fifteen percent of endocrinologists supported radical neck dissection compared with 0% to 4% of other groups. The difference between specialties was significantly different \( (p = .002) \).

4. A 65-year-old man presents with a progressively enlarging 3-cm mass over 1 month. FNA suggests “anaplastic carcinoma.” My next step is:

a. Do as radical a procedure as possible
b. Do nothing
c. Tracheotomy
d. Ask the pathologist to perform further studies
e. Radiotherapy \( + \) Adriamycin [doxorubicin]

**Overall Response.**

a. 29%; range, 18% (GS) to 42% (EC)
b. 4%; range, 0% (EC, PT) to 7% (ENT, GS)
c. 22%; range, 3% (EC) to 41% (ENT)
d. 4%; range, 0% (EC, PT) to 11% (GS)
e. 41%; range, 23% (ENT) to 69% (PT)

**Comment.** Aggressive intervention in the form of surgery or chemoradiation was supported by
more endocrinologists (97%) and pathologists (92%) than surgeons (50% to 61%). Otolaryngologists more frequently suggested tracheotomy (41%) than did other specialties (3% to 21%). The difference between specialties was statistically significant ($p = .001$).

5. **What is the greatest extent of thyroidectomy that you will allow a trainee to perform?**
   a. Total thyroidectomy unsupervised
   b. Partial thyroidectomy unsupervised
   c. Total thyroidectomy supervised
   d. Partial thyroidectomy supervised
   e. No thyroid surgery

**Overall Response.**

a. 6%; range, 0% (EC, PT) to 9% (ENT)
b. 1%; range, 0% (EC, GS, PT) to 5% (ENT)
c. 50%; range, 0% (PT) to 66% (ENT)
d. 17%; range, 9% (ENT) to 29% (GS)
e. 26%; range, 11% (ENT) to 77% (PT)

**Comment.** Most nonsurgical physicians (58% to 77%) stated that thyroid surgery should not be performed at all by trainees. Most surgeons (75% to 79%) stated that only supervised thyroid surgery should be performed. Of note, 14% of general surgeons and 11% of otolaryngologists stated that they would not allow a trainee to perform any thyroid surgery. The difference between specialties was statistically significant ($p < .001$) and is shown in Figure 3.

6. **A 25-year old woman is 8 weeks pregnant. She has a 2-cm solitary nodule in her thyroid and an FNA diagnosis of papillary carcinoma. I would advise:**
   a. Immediate surgery
   b. Abort the fetus and immediate surgery
   c. Wait until the second trimester and perform surgery
   d. Wait until she delivers and then perform surgery

**Overall Response.**

a. 3%; range, 0% (EC, ENT) to 8% (PT)
b. 3%; range, 0% (EC, ENT, PT) to 11% (GS)
c. 32%; range, 8% (PT) to 48% (EC)
d. 61%; range, 52% (EC) to 85% (PT)
Comment. Most physicians indicated that surgery should be deferred until postpartum, although 48% of endocrinologists stated that thyroidectomy should be performed during the second trimester. Of note, 11% of general surgeons would advise termination of pregnancy for immediate surgery compared with 0% of other specialties. The difference between specialties was statistically significant ($p = .003$).

**Postoperative Management.**

1. Do you treat every patient with well-differentiated thyroid cancer with radioactive iodine?
   a. Yes
   b. No

   **Overall Response.**
   a. 35%; range, 0% (PT) to 52% (EC)
   b. 65%; range, 32% (ENT) to 100% (PT)

   **Comment.** Most endocrinologists (52%) stated that they treated all patients with radioactive iodine. This differed from other specialties (0% to 39%) and corresponds to Operative Management Question 1 in which endocrinologists were most likely to recommend total thyroidectomy for “low-risk” differentiated thyroid cancer. The interspecialty difference was statistically significant ($p = .01$).

2. A 30-year-old woman undergoes partial thyroidectomy but the final pathology reveals a 2-cm papillary carcinoma. What do you advise?
   a. Completion thyroidectomy ± radioactive I-131
   b. Radioactive I-131 therapy
   c. External beam therapy
   d. Clinical observation
   e. Serial ultrasound and thyroglobulin

   **Overall Response.**
   a. 82%; range, 62% (PT) to 91% (EC)
   b. 0%; range, 0%
   c. 0%; range, 0%
   d. 3%; range, 0% (EC, ENT) to 8% (PT)
   e. 15%; range, 9% (EC) to 31% (GS)

   **Comment.** Completion thyroidectomy was the most popular response in all specialties. General surgeons (29%) and pathologists (39%) were more
likely to follow the patient clinically or with ultrasound than other specialties (9% to 11%). There was no significant interspecialty difference ($p = .089$).

3. A 30-year-old woman underwent total thyroidectomy for a 3-cm papillary carcinoma and no other adverse features. Her follow-up will consist of:

a. Regular clinical examination only
b. Regular ultrasound and annual iodine scan
c. Regular clinical examination and thyroglobulin levels
d. Regular clinical examination, thyroglobulin levels, and at least one stimulated thyroglobulin

*Overall Response.*

a. 1%; range, 0%
b. 7%; range, 0% (EC, GS) to 23% (PT)
c. 37%; range, 24% (EC) to 57% (GS)
d. 55%; range, 43% (GS) to 76% (EC)

*Comment.* All specialties favored following patients with thyroglobulin levels; however, endocrinologists (76%) were more likely to use stimulated thyroglobulin than were other specialties (43% to 50%). More pathologists (23%) and otolaryngologists (14%) considered ultrasound and iodine scanning as appropriate follow-up than did other specialties (0%). The difference between specialties was significantly different ($p = .004$) and is shown in Figure 4.

4. A 45-year-old woman undergoes total thyroidectomy and radioactive I-131 for a 2-cm papillary carcinoma. Two years later her thyroglobulin climbs to 15. Her whole-body scan, neck ultrasound, and CT are normal, but a PET scan shows uptake in the right thyroid bed. My next step is:

a. Repeat I-131 therapy
b. External beam therapy
c. Thyroid bed re-exploration and paratracheal dissection
d. Observation
e. None of the above

*Overall Response.*

a. 62%; range, 23% (PT) to 75% (ENT)
b. 5%; range, 0% (GS) to 15% (PT)

*FIGURE 4.* Postoperative management question 3.
c. 24%; range, 15% (PT) to 32% (GS)
d. 8%; range, 5% (ENT) to 46% (PT)
e. 2%; range, 0% (EC, GS, PT) to 2% (ENT)

Comment. In this scenario of thyroid bed/para-tracheal recurrence, there was no specialty that favored surgical intervention. However, general surgeons (32%) and endocrinologists (30%) were more likely to recommend exploration than were other specialties (15% to 16%). Otolaryngologists (75%) were more likely to re-treat the patient with I-131 than were other specialties (23% to 55%). The difference between specialties was statistically significant ($p = .002$).

5. What treatment dose for remnant ablation would you administer to a 30-year-old woman with a 2-cm papillary carcinoma and no adverse prognostic features?

a. $<30$ mCi
b. 30 to 59 mCi
c. 60 to 99 mCi
d. 100 to 129 mCi
e. $>129$ mCi

Overall Response.

a. 21%; range, 9% (EC) to 54% (PT)
b. 36%; range, 36% (EC) to 50% (ENT)
c. 11%; range, 0% (PT) to 15% (EC)
d. 31%; range, 0% (PT) to 39% (EC)
e. 2%; range, 0% (EC, GS, PT) to 5% (ENT)

Comment. In this low-risk scenario, there was considerable intraspecialty variation in the dose of I-131 recommended. Endocrinologists (54%) were more likely to prescribe a dose in excess of 60 mCi than were other specialties (0% to 29%). The difference between specialties was statistically significant ($p = .017$) and is shown in Figure 5.

6. What treatment dose for remnant ablation would you administer to a 68-year-old woman with a 3-cm papillary carcinoma and no adverse prognostic features?

a. $<30$ mCi
b. 30 to 59 mCi
c. 60 to 99 mCi
d. 100 to 129 mCi
e. $>129$ mCi

FIGURE 5. Postoperative management question 5.
Overall Response.

a. 1%; range, 0% (EC, GS, PT) to 5% (ENT)
b. 18%; range, 9% (EC) to 32% (ENT)
c. 19%; range, 16% (ENT) to 54% (PT)
d. 54%; range, 23% (PT) to 57% (GS)
e. 7%; range, 0% (GS, ENT, PT) to 12% (EC)

Comment. In this intermediate-risk scenario, the dose recommended by all specialties escalated. Otolaryngologists (37%) were more likely to prescribe a dose less than 60 mCi than were other groups (9% to 23%), and endocrinologists (12%) were more likely to prescribe a dose in excess of 129 mCi than were other groups (0%). The difference between specialties was statistically significant ($p = .008$).

DISCUSSION

It is widely held that significant differences exist between specialties in the management of thyroid nodular disease and cancer; however, the evidence to support this is scant. A MEDLINE and Pub Med search of the English-language literature yielded only one thyroid study examining the topic of interspecialty differences and one additional study when the search was broadened to the international literature. The study by Perrier et al looked at follicular neoplasm management using a mailed questionnaire, whereas Massol et al (French) examined the investigation of thyroid nodules by primary care physicians and other specialists, again using a mailed questionnaire. Both studies demonstrated a major disparity in management of thyroid disease between specialties.

In interpreting the results of this study, several trends emerged. Between specialties there was greater concordance in investigation of thyroid nodules (71%) than in operative management (17%) and post-thyroidectomy follow-up (17%). There was reasonable interspecialty and intraspecialty consensus on the following assessment issues: FNA is the appropriate initial investigation of a thyroid nodule (82% to 93%), even in the setting of prior irradiation (39% to 77%); ultrasound is a useful adjunct (67% to 80%); radionuclide scans have limited application in initial assessment (5% to 8%); and routine preoperative imaging is not necessary with a conclusive FNA (77% to 88%).

Operative and postoperative management issues with reasonable consensus included the following: total thyroidectomy is appropriate management for low-risk thyroid cancer (62% to 91%); proven nodal disease should be managed with function neck mediastinal dissection (69% to 93%); surgery for papillary cancer in pregnant patients should be deferred until postpartum (52% to 85%); and follow-up after total thyroidectomy should include serial thyroglobulin levels (77% to 100%). Of interest, there were questions with a high degree of interspecialty agreement but poor intraspecialty agreement. These included two preoperative issues regarding the management of patients with inconclusive FNA results, such as “suspicious” or “cyst contents.”

As mentioned previously, there was greater interspecialty disagreement in operative and postoperative management of thyroid cancer. Of note, endocrinologists in general were more aggressive in the management of thyroid cancer than were surgeons and pathologists. They were most likely to recommend total thyroidectomy on the basis of a suspicious FNA (30%) and for low-risk thyroid cancer (91%), completion thyroidectomy (79%) for low-risk cancer, neck exploration for bed recurrence (30%), radical neck dissection for nodal disease (15%), chemoradiotherapy or radical resection for anaplastic cancer (97%), and treatment of all patients with radioactive iodine (52%) and with higher doses for remnant ablation. The converse was true of general surgeons, who were least likely to perform total thyroidectomy, except in the setting of irradiation, and less likely to perform completion thyroidectomy for low-risk papillary carcinoma. However, it should be stated that these responses still represented a minority of the entire group of general surgeons.

The authors have avoided giving opinions or making judgments on what the “correct” answer to each question should be. It is well recognized that despite the wealth of literature on thyroid cancer, there is little level I evidence on which indisputable recommendations can be made. This study is primarily designed to compare responses between specialties rather than educate on the appropriate management of thyroid disease.

Other specialties involved in the management of thyroid disease have been excluded from this analysis. These include primary care physicians, nuclear medicine physicians, and radiologists. The data pool used in this study was inadequate to include these groups for analysis. Although pathologists were included, their number was small, and this should be taken into consideration when interpreting the results.

There are limitations in the reliability of this type of cross-sectional analysis, because the re-
responses to questions do not always translate into actual practice. First, attendees are given only a limited number of responses and a limited amount of time to consider these. Attendees may, in fact, have chosen a different response if that had been offered. For example, in postoperative management question 3, physicians may in practice use a combination of iodine scans and thyroglobulin to follow patients after total thyroidectomy, but this option was not provided. Second, there may be disparate interpretations of questions. For example, in operative management question 3, those physicians who selected “radical” neck dissection may not accept this as including sacrifice of the sternomastoid muscle, jugular vein, and spinal accessory nerve. Third, attendees may have responded with some degree of levity. For example, in operative management question 5, physicians who responded that they would not allow a trainee to perform any thyroid surgery may have been flippant. Finally, attendees may have been influenced by the invited faculty’s opinions. For example, in postoperative management questions 5 and 6, these followed an interactive panel discussion on the dosing of remnant ablation with I-131.

In addition to problems encountered with attendee responses, there are methodologic problems related to the small sample size. For this reason, and in an attempt to avoid confusion from multiple significance (p) values, the statistical analysis has been limited to examining the differing specialties as members of one parent group rather than comparing each specialty with the other three groups.

Despite the limitations discussed, it is apparent that there are important differences in attitudes and practices between the endocrinologists, general surgeons, otolaryngologists, and pathologists. Also, within each of these specialties, practice may vary widely in some areas but also may be remarkably consistent in others.

REFERENCES

EDITORIAL COMMENT: MANAGEMENT ATTITUDES IN THYROID CANCER

Drs. Clark and Freeman have presented an interesting manuscript based on a cross-specialty survey of the attendees at their Fifth Biennial Course on Management of Thyroid Diseases. Use of an electronic touch pad offers responders privacy and an unbiased recording of data not found in the traditional method of raising and counting hands. Authors have selected the questions and compared the results between the specialties of endocrinology, general surgery, otolaryngology, and pathology. Although authors have grouped their responses into these four specialties, Table 1 refers to the responses by radiologists, trainees, allied health, and other groups. It is unclear from the manuscript which specialty included the tally from these responses.

Of the 213 attendees who were given touch pads and asked to respond to 44 questions, it is interesting to note that the number of responses to each question varied from 89 to 164. This discrepancy may be due to lack of comfort with touch pad use or limited time to respond. One of the major limitations of such studies is the difficulty in formulating an opinion about the responses given by the attendees. It is quite possible the responder may have something else in mind that is not available in the choices provided. Of the 44 questions posed, 19 were used by the authors for their analysis.

It must be remembered that the distribution of specialties is not equal and may give some erroneous impressions. For example, pathologists form only 9% and 7% on day 1 and day 2, whereas the general surgeons form 19% and 18%, respectively. Despite this unequal representation, the
authors have recognized interspecialty differences in 12 of 19 questions. The authors have reported clear differences in the operative management and postoperative follow-up of patients with thyroid cancer, whereas they report a general concordance in the investigation of thyroid nodules. Evaluation of a thyroid nodule with fine-needle aspiration biopsy was approved in a general consensus of opinion, with ultrasonography a useful adjunct. Radioactive iodine scans and other preoperative imaging are generally agreed to be unnecessary.

Given the differences in approach to management of low-risk patients with thyroid cancer, it is interesting that most of the respondents consider total thyroidectomy in these patients. The subject of thyroid disease, thyroid cancer, and thyroid nodules continues to be so controversial that there are bound to be differences of opinion among different specialties. Endocrinologists seemed to advocate a more aggressive treatment approach than surgeons and pathologists. As discussed in the following, concern about tumor biology and intraoperative complexities may influence treatment preferences between specialties. Most endocrinologists strongly consider total thyroidectomy or completion thyroidectomy and radioactive iodine ablation of remnant thyroid tissue. As the authors mention in their discussion, there is little level I evidence on which definitive recommendations can be made for the low-risk group. If the surgeon has performed thyroid lobectomy for minimally invasive thyroid cancer, he or she would feel quite comfortable clinically following the patient. However, if the patient goes back to the endocrinologist for follow-up, it may be very difficult for the endocrinologist to accept less than total thyroidectomy, because he or she would rely very heavily on thyroglobulin and radioactive iodine scan for follow-up care. In the low-risk group, the value of such adjunct treatment remains questionable. Surgeons always think in terms of rapidity of workup and effective surgical treatment that will yield the best control of the disease locally, whereas the endocrinologists think more in terms of adjuvant therapy and long-term follow-up. There is a general belief among endocrinologists that radioactive iodine ablation will yield better long-term survival and diagnose distant metastasis earlier.

Management of thyroid nodules and thyroid cancer generates considerable controversy among those in the same specialty as well. One can find strong proponents and opponents of total and less than total thyroidectomy in any surgical discussion. Several factors contribute to the lack of consensus on this subject. No matter which surgical procedure one undertakes, the overall outcome does not change remarkably. There are no prospective randomized trials on this subject, and most of the data are obtained from retrospective analyses, personal beliefs, the philosophy of the physicians who are going to follow the patient after the surgery, and surgical prejudice. Although pathologists mainly focus their attention on the histologic analysis of the thyroid tumor along with pathologic prognostic factors, they are able to suggest which tumors are more aggressive and which tumors reveal minimal capsular invasion, a crucial point in the overall management of thyroid tumors.

This is an interesting article; however, the information provided here needs to be considered in light of the study’s limitations. The authors do report some of the limitations of such a study in their discussion, which is commendable.

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