

DISCUSSION

DR. GEORGE CRILE, JR. (Cleveland): I had the privilege of reading this manuscript, and from it I have taken the liberty of making some slides.

I do not think that it is possible to compare the treatment of hyperthyroidism in veterans' hospitals, where you have to hospitalize the patient, with that which occurs in private practice.

And so I think we have to accept that everything that Dr. Bowers has said is true in the world that he lives in, but it bears absolutely no relationship to the world I live in.

At the Cleveland Clinic, unless the patient has to be in the hospital for some other reason, patients are never hospitalized for treatment with I^{131} . The average number of hospital days in the Veterans Hospital was 117 for I^{131} treatment of hyperthyroidism and in the Cleveland Clinic it was zero. For surgical treatment the corresponding figures were 52 and 4.

(Slide) Our average dose of I^{131} is 7 mc, which is much more than is given initially at the Veterans Hospital. We cure 70 per cent of our patients within 2 months by one treatment. Most of the rest are cured by a second treatment and only occasionally do we have a patient that takes more than two.

The average number of days until cure was established—that is, until cure was proved—was 89 with us, but it would actually be shorter than that, because many of these people were euthyroid earlier. During treatment they were at home and working as usual.

Now, this is the thing that is most important to me: in the V. A.'s data there are two vocal cord paralyses. Anybody who has listened to the music of Dr. Bowers' voice, as he told about how inconsequential these things are, should realize that his persuasive voice would not be the same had he had a vocal cord paralysis.

Tetany can be laughed off lightly because it can be controlled, but the late complications—the cataracts, and so forth—are serious and, so far as I know, unpreventable. I do not consider hypothyroidism to be a serious complication, or one that presents the slightest difficulty to treat.

(Slide) This is an old slide, dated from the days when we were treating patients with Graves' disease by operation. We have now abandoned this, and we have treated some 3,000 with radioactive iodine. But this slide dates from the days when we were in a transitional stage between the type of thyroidectomy that Dr. Dinsmore and my father did and the more radical type that was a more anatomic operation. You can take your choice whether you want to have a high incidence of recurrent hyperthyroidism or a high incidence of hypothyroidism. You cannot get a perfect balance. If you take out a lot of thyroid you get a high incidence of hypo, and if you do not take it you are apt to get recurrence.

I do not believe that in Graves' disease there is any necessity of incurring even the slightest risk.

Treatment with I^{131} is fully effective. I have yet to see a person who with Graves' disease (I have seen some with nodular goiter who could not be controlled with radioactive iodine, but I do not care how big the goiter is or how severe the hyperthyroidism is) whose hyperthyroidism could not be controlled with radioactive iodine.

DR. BENTLEY P. COLCOCK (Boston): I think Dr. Bowers' paper is most timely. When one talks with residents in some of our larger hospitals, one finds that they have seen but one or two thyroidectomies in the course of a year, and one wonders who is going to do the thyroid surgery of tomorrow.

And yet I think there is a place for thyroid surgery in most of the clinical aspects of thyroid disease that we see. We have not asked, for instance, how institutions that have very few operations treat cancer of the thyroid or how they treat large nodular goiter with tracheal compression. Most of us agree that surgery is the only curative treatment for cancer of the thyroid. Probably less than 25 per cent of patients with nodular goiter will achieve shrinkage with thyroid extract.

But, turning to hyperthyroidism, the subject of Dr. Bowers' paper, we believe that for most of these patients—with the exception of those over 45 years of age and those with recurrent hyperthyroidism—thyroid surgery is the best treatment.

In the last 8 years we have operated upon more than 500 patients with hyperthyroidism. There has been no mortality, no persistent tetany, and no persistent hoarseness. The incidence of myxedema is 8 per cent, which is about what Dr. Bowers found.

Dr. Stanbury at the Massachusetts General Hospital has recently raised the question that if, as Dr. Cope pointed out, one believes in treating hyperthyroidism with radioactive iodine to the point of cure, one must accept an incidence of hypothyroidism, or myxedema, of 30 per cent. That is a rather serious indictment and has raised the question of whether or not I^{131} should be used at all for the treatment of primary hyperthyroidism, or Graves' disease.

In a 10- to 15-year follow-up study after surgery the recurrence rate of hyperthyroidism was 5 per cent and the incidence of myxedema was 8 per cent.

I would like to say a word about nodular goiter and secondary hyperthyroidism. These patients include the largest number of thyrocardiacs, which is where a mortality should occur in thyroid surgery. Yet, we have had no deaths in the last 8 years in this type of patient. The incidence of hypothyroidism is even less in these patients than it is in patients with Graves' disease, and there have been no instances of persistent tetany or persistent hoarseness. These patients are prepared with the antithyroid drugs. Like patients with Graves' disease, they spend only 5 days in the hospital and they require no treatment afterward. There is one thing we have learned: they stand even relatively mild degrees of postoperative anoxemia poorly. All

of these patients with nodular goiter, secondary hyperthyroidism and cardiac symptoms have a prophylactic tracheotomy at the time of thyroidectomy.

You might well ask: why not continue to treat these patients with nodular goiter with the anti-thyroid drugs? They are elderly and you can theoretically control them indefinitely. I might tell you my own experience in this respect.

My mother-in-law has had a nodular goiter for a number of years. When she was 79 she became toxic. Secondary hyperthyroidism will develop in the great majority of patients with nodular goiter if they live long enough.

Well, I have a reasonably happy home, and my children think that "Granny" is the finest person who ever came down the pike, and she, being a little arteriosclerotic, said she would not be operated upon unless I did it. I persuaded Dr. Bartels, one of my medical colleagues and a former President of the American Goiter Association, to treat her—much against his better judgment. Her auricular fibrillation was controlled with the anti-thyroid drugs, the dyspnea on exertion disappeared, and she was better for a while. But people in their seventies or eighties forget rather easily and even though she is right under my own roof, she would stop taking her pills until she got short of breath and began to fibrillate. For 5 years now she has been in and out of hyperthyroidism despite everything that Dr. Bartels or I could do. I know now that I should have operated upon her 5 years ago when she was only 80.

DR. BENJAMIN FRANKLIN BYRD, JR. (Nashville): Dr. Bowers' paper was delightful in the reading—I had the opportunity of seeing his manuscript—but it was certainly much more interesting in the presentation.

I think that these interesting data which he brought us this morning continue to point up the idea that there are certain indications for and real advantages in surgical intervention in selective cases. It is rather strange, though, that the specialists in internal medicine seem to have a philosophy of practice that if there is a way to treat a disease other than by surgery, then the nonsurgical method is preferable.

The advantages of surgery which Dr. Bowers pointed up in his veterans' group do not end with that group of patients. I'd like to show a few figures on the pre-veteran age group; thyrotoxicosis in pediatric and adolescent-aged patients is not uncommon.

(Slide) I wish to show a series of 35 young patients with hyperthyroidism who have been treated surgically during the 10 years just past on the services of Vanderbilt Hospital and St. Thomas' Hospital. These patients were all under 20 years of age and were operated upon at the ages indicated, although their symptoms predated operation by periods ranging from a few weeks to 8 years. As might be expected, they were principally young girls, with only six boys in the group.

(Slide) There was one functioning carcinoma, treated by lobectomy alone, and later this patient had a recurrence of toxicity and the other lobe was removed, and she is apparently well after almost 11 years.

These patients were prepared for surgery with either iodine alone or iodine plus one of the Thiourea derivatives, and in no instance was radioactive iodine used in this age group.

(Slide) The immediate complications were negligible. The hospitalization was brief. We do not have a complete follow up as yet, but only one patient is known to be on a maintenance dose of thyroid extract.

Now, it is well known that in immature animals the cells are especially susceptible to ionizing radiation. Recently Kogan has reported a thyroid carcinoma following the treatment of hyperthyroidism with I^{131} in a group of children. This is simply clinical evidence to support the laboratory data.

Surgery remains physically and fiscally the treatment of choice in the first 2 decades of life, when permanent remission does not follow the treatment of thyrotoxicosis with a course of one or other of the Thiourea derivatives.

It certainly was interesting to me to note that surgery has cured these children in about 4 days, whereas it took five hospitalizations and 117 days in what one of our residents has impiously referred to as the Heroes' Hilton to accomplish this with the medically treated individual. These were beautifully described by Dr. Bowers.

DR. ALLEN BOYDEN (Portland, Oreg.): I rise to bring up two points that impressed me when I reviewed this subject before a recent sectional meeting of the College of Surgeons.

The first relates to the mortality of thyrocardiac patients while under medical treatment. One report of an adequate series revealed that 8 per cent died while undergoing I^{131} therapy. This certainly is of some importance.

The other thing that came to my attention was a follow up of a series of over 700 patients who had been treated with I^{131} with reference to the incidence of hypothyroidism and myxedema. During the first year 7.5 per cent developed hypothyroidism, and in each succeeding year there was an increment—a continuing increment—of from 3 to 5 per cent of these patients who developed hypothyroidism and, if untreated, of course myxedema. The eventual total of such patients requiring treatment is predicted to be 50 per cent or more. This means that all patients treated with I^{131} must be followed regularly throughout their lifetime if the serious complication of myxedema is to be prevented.

Hypothyroidism is an easy condition to treat, but obviously the patients cannot be expected to make the diagnosis themselves.

DR. RALPH F. BOWERS (Memphis, Tenn.): Dr. Cope is right. The reason our medical people used a long time was that they feared the myxedema

that Dr. Stanbury mentioned. I did not have time to bring out what these Boston endocrinologists, I presume—or at least internists, have written: that it is difficult to treat the myxedema which appears after I^{131} therapy, because as the cells continue to be destroyed as shown in the microscopic section, the function of these cells is lost. The myxedema is not stabilized, and we have had a few patients in Memphis who got very disturbed because the medical people could not handle their myxedema satisfactorily.

Surgical myxedema is very easy to handle. It tends to get much better as time goes along, as you see, and the remaining cells are not destroyed.

Now, Dr. Crile's is a different world from mine—I do not know whether that is quite true, but what he says about the kind of patient we have in Veterans Administration Hospitals is quite true. We have to keep them there longer than we wish; 75 per cent of the patients at our hospital come from places 100 to 200 miles away from our institution, so that for the cooling-down process and to make sure everything is eventually all right, we have to keep them right under our observation.

I would take issue with him about those two unilateral nerve injuries. I suspected that somebody would challenge the statement. He said they would be hoarse, so I brought these two fellows in the VA Hospital, where we have a lot of deaf people. I made them ask questions of the deaf people, and I had them hollering good and loud. All of us who heard the questions could certify to the fact that these men were not hoarse even after these increased voice efforts. I did detect, however, if they talked all day long with these deaf fellows, that they became a little fatigued.

Dr. Colcock's remarks about his patient are interesting and pertinent.

I want to thank Dr. Byrd for bringing out something about therapy in children, with whom we did not have any opportunity, of course, to have any experience.

Dr. Boyden touched on a point which has troubled us considerably. Dr. Cope said that we should not have included the uremic death, and he might be right. Well, we pondered this and threw it back and forth for months, went over the charts and re-analyzed them. I quite agree, Dr. Cope, and do not believe the internists handled that fellow correctly, because he was not so badly hypoparathyroid, but hypoparathyroid he was, and some of them even took him off the supportive measures. The reason was not too obvious. At the end of this study, we had to put it down as a uremia probably due to parathyroid deficiencies, because we had no other condition causing the uremia to which we could attribute his death.

Concerning Dr. Boyden's comment about the thyrocardiac, you know when a medical man or any of us digitalize a patient and the digitalis goes wrong and the patient dies, they say he died of heart disease. They never say he died from the digitalis.

When a person dies from a surgical operation, that is obvious. We did not lose any of these thyroid patients, and none of the discussors have lost any. But when it comes down to ascribing the cause of death of these two thyrocardiac patients, there is doubt whether the I^{131} therapy caused the deaths. These lesions were fairly old ones. There were pulmonary fibrosis, pulmonary emphysema, pneumonia, lung abscesses, and I do not think that the hyperthyroidism helped their chances any. Whether it contributed to their deaths I do not know, and there is simply no way that you could pin this down.

But I am inclined to agree with Dr. Boyden that some people have lost their lives in the thyrocardiac field because of this therapy.

Do not forget that this terrifying myxedema that Dr. Stanbury talks about is more dangerous to the thyrocardiac than even mild hyperthyroidism.