The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. LXVIII, No. 10

CHICAGO, ILLINOIS

MARCH 10, 1917

RESULTS OF TREATMENT IN HODGKIN'S DISEASE *

J. L. YATES, M.D.

Fellow of the American College of Surgeons
MILWAUKEE, WIS.

AND

C. H. BUNTING, M.D.

MADISON, WIS.

In this summary of our clinical experience in treating sixty-three cases of Hodgkin's disease of certain diagnosis over a period of eight years, we shall exclude, so far as practicable, hypotheses and technical details. We offer an interpretation of the effects of our therapy that is to some extent both incomplete and unsatisfactory. Many of our patients began treatment comparatively recently, and approximate accuracy in the estimation of results depends on a series of well controlled observations extending over a period of at least five years. On the other hand, this is the largest series of cases reported from one group of observers, the only one that has been followed at frequent intervals by coordinated workers, consecutive records thus being obtained of variation in the blood picture, general physical condition and roentgenographic evidence. These observations, so far as possible, have been made independently in an effort to eliminate bias.

Pending the final determination of the cause, course and prevention of this disease, clinicians should have no less interest in its treatment; and this interest must be considerable since, next to tuberculosis, Hodgkin's disease is the commonest and most important disease of the lymphatic system.¹

Whether one holds with the great majority that the disease is in nature inflammatory, or with the minority that it is neoplastic, concerns an individual sufferer but indirectly, provided every possibility of recovery is vouchsafed.

Our contention that the affection partakes in effect of the destructive potentialities of both a malign infection and a neoplasm² has been given practical trial in the methods of treatment employed, the appended results of which will to some extent determine the rationality of both.

CLASSIFICATION OF CASES

It is essential to group these cases according to the nature and stage of the process because the extremes, from a therapeutic point of view, are virtually incom-

parable. Years after Hodgkin's work indicated that he had discovered a clinical and pathologic entity, clinicians came to recognize acute and chronic forms, the former of from two to five months' duration, the latter lasting as many years. Much earlier Trousseau³ had described three stages of the disease so accurately that his classification is the best available:

1. The latent stage, extending from the onset to the progressive stage.

2. The progressive stage, in which multiple more or less widely separated groups of glands become involved, so suddenly at times as to have been aptly termed explosive, but usually occurring gradually and ending after correspondingly variable intervals in the final or cachectic stage.

3. The cachectic stage, in which the peculiar progressive pallor and other signs of increasing physical and physiologic debility indicate that resistance and rehabilitation have been overcome permanently.

So great is the difference in the clinical picture at the beginning and at the end of these stages, that Trousseau's classification has been amplified, as indicated in the accompanying diagram. Our cases roughly fall into this grouping, but classification of individual cases according to this scheme is admittedly inaccurate and merely tentative.

CLASSIFICATION OF CASES

All Cases 63	{	Acute Cases, 5	{	Stage 1, 8	{	Early	{	Group 1	5 Cases
						Late	{	Group 2	5 Cases
	{	Chronic Cases, 58		Stage 2, 25	{	Early	{	Group 3	3 Cases
						Late	{	Group 4	11 Cases
				Stage 3, 25	{	Early	{	Group 5	14 Cases
						Late	{	Group 6	14 Cases
			{	Stage 3, 25	{	Early	{	Group 7	11 Cases
						Late	{	Group 8	11 Cases

TREATMENT

After the reasons for treatment and the methods of treatment have been outlined, their application to each of the foregoing groups will be indicated and the results obtained stated.

General Principles.—At the beginning of this work a mortality of 100 per cent. was universally accepted, although there was lacking the record of a single exception to prove the rule. As experience increased, it was inevitable that methods of treatment should vary. Failures were distressingly frequent, but a few

* Read before the annual meeting of the Wisconsin State Medical Society, Madison, Wis., Oct. 4, 5 and 6, 1916.
1. Ziegler: Berl. klin. Wchnschr., 1911, 48, 1917.
2. Yates, J. L., and Bunting, C. H.: The Rational Treatment of Hodgkin's Disease, THE JOURNAL A. M. A., June 12, 1915, p. 1953.

3. Trousseau: Clin. méd., 1865, 3, 555.

successes in ultimate recoveries and in satisfactory palliation (prolongation of life with decreased discomfort and the maintenance of the patients' optimism) sufficed to show that eventually a more effective therapeutics was at least a developmental probability.

In addition to a conviction that the process was infectious, clinical studies brought a recognition of certain fundamental facts. The most significant of these in importance has hitherto escaped recognition. Although this disease is noncommunicable and very few individuals are susceptible, after the process is once well established, final spontaneous recovery seldom if ever occurs; yet throughout its course repeated and almost successful temporary defensive responses are manifested.

This was assumed to indicate that the infection is of low virulence, and that the affected individuals are incapable of a permanent protective reaction to this toxin, however it may be administered. These premises demand in therapeutic logic an early and adequate subtraction from the amount of the disease in order to place the balance of power emphatically and rapidly on the side of individual resistance and to maintain it there, through the elimination of every possibility of reinfection.

Further, this morbid process imitates the behavior of malign affections, notably of certain types of tuberculosis and of certain malignant neoplasms, especially the carcinomas, in so many details, as, for example, in modes of dissemination, in direct extension and in the nature of local and general resistance, that the nearly identical problems presented seem to demand the same solution. This is an additional indication for surgical intervention.

Finally, the rather numerous "cures" recorded in the literature, following an almost incredible number of methods of treatment, were without exception but temporary improvements. The improvement in the majority of instances occurred in spite of the treatment used, though in some doubtless it was fostered thereby.

Apparently a composite sequential series of treatments is demanded, including everything of proved or possible value, as it was quite out of the question, with one exception, to devise anything, however rational or irrational, that had not already been employed, all with the same ultimate results.

These conditions seemed to us to indicate the following methods:

1. To determine and to eliminate the portal or portals of entry of the infection, those chronic lesions of skin or mucous membrane pointed out by Trousseau in 1865 and curiously never rediscovered, never even given any practical recognition by therapeutists.

2. To extirpate so thoroughly all eradicable involved tissue in suitable cases as (a) to place the balance of power decidedly on the side of the individual instead of on that of the disease; (b) to eliminate this source of further infection and intoxication, and (c) to prevent subsequent physical and physiologic debility through the continued growth of this tissue in situ and consequent pressure and irritation effects on surrounding structures.

3. To keep the balance of power on the side of the patient (a) by improving general health through hygienic measures; (b) to prevent by radiation, by immune serum and by medication any extension of the disease, and (c) to repeat these treatments at intervals of a few months, unless other manifestations of progress of the disease, as determined by the patient's condition and especially by untoward changes in the blood picture, demand more frequent treatments or more radical interventions.

Three of these procedures require explanation.

It has long been held and frequently reiterated, notably of late years by Fischer⁴ and Dorothy Reed,⁵ that surgery, always of doubtful value, frequently was positively harmful, and that reexcisions were seldom if ever justifiable. These views were based on the repeated observations that local recurrences, usually prompt, were the rule after the excision; and, moreover, that these recurrences often assumed a type more acute than the original process and were prone to hasten rather than to retard death. We have seen such recrudescences appear within a week. The explanation is simple.

A portal of entry (inflamed tonsils, teeth, accessory sinuses, patches of dermatitis, bronchitis, enterocolitis, etc.) is comparable to a primary lesion in carcinomatous processes. The records of earlier, less radical surgical treatment show that these foci of dissemination were constantly neglected, and that therefore local reestablishment of the disease was a natural result, particularly since this affection seems limited at its inception to preexisting lymphoid tissue, only secondarily extending therefrom to invade directly other tissues. Consequently if, in addition to this neglect, the primary excisions are relatively incomplete (and according to our belief none is or can be actually complete in removing all potential lymphoid tissue⁶), and are not therefore followed immediately and at intervals thereafter by intensive Roentgen-ray treatments, distressing experiences of aggravation of the disease are almost certain to occur. In addition, the constant liability to septicemia must not be overlooked.

On the other hand, radical extirpations preceded by removals of portals of entry and followed by careful after-treatment have proved that in favorable (less advanced) cases local recurrence may be reduced to a surprisingly low percentage (possibly less than 5 per cent.), and that when they do occur under these conditions they are usually late and have assumed a much more chronic type of lesion. Such late lesions may be

4. Fischer: *Deutsch. Chir.*, 1901, **24**, 104.

5. Reed, Dorothy: *Johns Hopkins Hosp. Rep.*, 1902, **10**, 133.

6. So little is known of the number and distribution of lymphoid rests or of the redevelopment of lymphoid structures consequent on excisions that it is impossible as yet to make more than a conjecture as to the sequence of events after a wide, thorough extirpation. Clinical evidence indicates that following even the most thorough and radical excisions of cervical tissue, e. g., for tuberculosis or squamous cell epithelioma, recurrence in unmistakable lymph glands may develop in such numbers and in such distribution as to make it quite certain that either or both of such regenerative processes must have been operative. Years after the final local disappearance of Hodgkin's disease following radical excisions and Roentgen ray, we have seen a simple type of lymphadenitis occur in such areas in a perfectly natural fashion, following an inflamed tooth or a dermatitis of the scalp. Our observations suggest that present conceptions of the normal distribution and function of lymphatic tissue, or of the abnormalities developing under the stress of other types of involvement (tuberculosis or cancer) barely indicate the possibilities in these particulars, possibilities of infinite therapeutic potentiality. Direct and indirect evidence is found in abundance in human pathology to support Murphy's (Murphy, J. B., and Morton, J. J.: *Jour. Exper. Med.*, 1915, **22**, 204) brilliant experimental observations and those of Theobald Smith (*Jour. Med. Research*, 1915, **32**, 455) indicating the significance of the lymphocyte as an index of local and general resistance to chronic malign affections, inflammatory and neoplastic. Hence our endeavors to protect all lymphatic tissue from infection, as the disease is prone to start in the germinal centers, and also to induce compensatory hyperplasia in actual or potential lymphoid rests. There is evidence that such hyperplastic tissue is not only hyper-resistant itself, but also contributes materially to general resistance. For example, after multiple radical excisions with subsequent radiation done for palliation in a patient, there was an interval of months of such continued well-being without any superficial evidence of disease that hopes of recovery were entertained, though the intrathoracic portion of the disease did not improve. General resistance collapsed suddenly after a severe griplike infection. Recrudescences then appeared and developed rapidly in areas hitherto immune. In this connection the work of Murphy and his associates, and the earlier experimental observations of Heineke (*Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, 1904-1905, **14**, 21) and of Warthin (*Internat. Clin.*, 1906, **4**, 243) show the paramount importance of proper dosage of the ray. We have had no experience with radium, and will have none until it can be shown to give at least as good results as the Roentgen ray with no greater dangers.

excised safely under local anesthesia, but afterward the site of operation should be treated with the Roentgen ray as if this late procedure were primary.

We believe in the efficacy of extirpation because of examples of recovery following such treatment which we report below; moreover, we have personal knowledge that individuals showing similar forms of the disease and treated similarly by others but without excisions have succumbed after more or less temporary relief. In our experience fever has disappeared, and local general improvement has followed single and multiple extirpations—a result otherwise not obtainable. Two persons hopelessly ill have requested additional operations because of the period of subjective improvement following previous extirpations.

Once more we wish to emphasize the negative to these assertions: If extirpation is not to be complete, it should not be attempted. Meddlesome surgery in Hodgkin's disease is even more dangerous than in cancer. We believe that we have seen hopeless dissemination follow a simple "test excision," and therefore practice them only in doubtful cases, when prepared to follow a frozen section diagnosis immediately with a radical extirpation, or in exceptional cases when an accurate histologic estimation of the nature of the process is of sufficient value as an aid to therapeutics to balance the danger. Such wounds should be treated with the Roentgen ray immediately and repeatedly, as even in acute cases the liability to dissemination is thus reduced materially.

The use of an immune serum presupposes a final proof of the etiologic relationship of *B. hodgkini*. As we cannot offer that proof, we must justify the use of a serum on other grounds.

The administration of the serum when it is sufficiently potent has reduced temperature in certain febrile cases in a manner that seemed to prove it the cause of the defervescence. There has been in both febrile and afebrile cases an improvement in subjective symptoms that was absent when the serum was impotent. One patient was particularly susceptible to this benefit, and could estimate after a few injections the value of any particular supply. Variations in potency were noted in the serums obtained from different horses and at different times from the same horse, and could be estimated only by the effects noted clinically. There was no bactericidal action. However, agglutination and complement fixation tests of the several serums were positive, as a rule, but showed no variations corresponding to their clinical effect.

Whether given subcutaneously so as to filter directly through affected glands or administered intravenously, there occurred usually a fairly prompt and at times considerable enlargement of such glands. In one case with advanced mediastinal involvement, this acute tissue reaction produced a pupillary asymmetry and a dyspnea that was alarming. This reactionary enlargement soon subsides, as a rule leaving the glands smaller than before the administration was begun. Such tissue subsequently removed has failed, in the few instances in which this has been done, to give a positive culture. Negative cultures are the rare exception when the tissue shows the histologic changes of the disease. Patients who tolerate the serum seem to improve more rapidly and to receive more permanent benefits than from the same general treatment but without the serum.

Medication of this group of diseases has consisted since the days of Billroth in the administration of

arsenic. It is without specific lasting virtue in any form yet available, from Fowler's solution to salvarsan. Some specific chemotherapy is urgently needed, but wanting this, fresh air, sunshine and proper feeding are infinitely superior to any drugs when there is no indication for tonics and the like.

APPLICATION OF TREATMENT TO GROUPS

Group 1, Acute Cases.—The blood picture, the most reliable single diagnostic evidence, is often obscured by the leukocytosis.⁷ It is fortunate that the incidence of this type of the disease is comparatively slight, for it is about as amenable to treatment as is the mastitis carcinomatosa of lactation or melanoma. By the time a diagnosis is made, the outlook is usually hopeless because of the intense intoxication and extensive involvement. However, if this acute process could be converted promptly into a chronic type, ultimate recovery is conceivable, as will appear later.

In these acute types, periadenitis, comparable in its pathologic and prognostic significance to the penetration of gland capsules by cancer metastases, is both early and extensive. This periadenitis makes a satisfactory extirpation extremely difficult or more often impossible. Nothing less, however, promises even temporary relief, as this type of the disease is least responsive to radiation and typifies the rapid uncontrollable recrudescences that have been noted by all observers to follow so regularly in those "cures" obtained by the ray alone. This universal experience, fortified by our own results, has convinced us that mere reduction in the size of the gland masses should not be the primary object in treatment, but rather such therapy as, controlled by the blood picture, leads to an overcoming of the infection.

Group 2, Incipient Cases.—The blood picture is positive and early. In these instances the portal of entry has been recently established, and only a few adjacent glands are beginning to be palpable. Such early diagnoses of the disease are partly fortuitous and partly the result of (1) careful physical examination of patients complaining of nothing more serious than a lack of energy; (2) routine blood counting, and (3) an accurate interpretation of tuberculin tests. So far these early manifestations have been limited to the primary cervical variety of the disease. Tonsillectomy, careful exclusion or treatment of tooth or sinus troubles, roentgenotherapy and hygiene have sufficed to check the disease at this stage, even after test excisions have been made. Exceptionally, the entire demonstrable disease process may be limited to one tonsil and yet the toxemia be sufficient to produce the characteristic blood changes, and even a specific bacteremia may have occurred.

Group 3, Early Cases.—The blood picture is positive and still of the early type. There is unmistakable involvement of the primary group of glands, cervical, axillary or inguinal (the primary mediastinal and retroperitoneal varieties have not been recognized as early as this), but without demonstrable extension therefrom. In this group and every other more advanced group the occurrence of a specific bacteremia of some extent is virtually certain at one or more of the positive phases, though the toxemia alone is possibly capable of inducing an adenitis in both adjacent and remote lymphoid tissue. Elimination of a portal of entry, radical extirpation, roentgenotherapy and hygienic living have sufficed to relieve this uncommon type—uncommon because usu-

7. Bunting: Bull. Johns Hopkins Hosp., 1911, 22, 248.

ally by the time one gland group is materially enlarged, extension to others has already occurred, at least at the time when advice is sought. It is unfortunate that too often patients of this and the preceding group are advised to temporize, or if the diagnosis is suspected are given arsenic and Roentgen-ray or radium treatments, and admonished to avoid surgery as a path to certain death. This attitude would be less open to criticism had any other method of treatment ever produced a cure even at this early stage.

Group 4, Moderately Advanced Cases.—The blood picture is positive but not of so early a type, that is, there are fewer lymphocytes, and a moderate eosinophilia has developed. More than one, sometimes all of the main superficial groups are diseased, but extension to the mediastinal or peritoneal glands cannot be more than suspected. These individuals show definite effects of intoxication and are slightly febrile, at least during periods of exacerbation. Eliminations of portals of entry and extirpation of the gland group or groups most involved may induce a permanent regression in other glands under proper radiation. Unless these secondary gland groups are but slightly enlarged and the patient's condition otherwise is indicative of no serious damage, the safest course is to proceed as rapidly as feasible with repeated extirpations to give maximal protection to inaccessible glands and to the lymphadenoid tissue in general. This should be followed by the usual secondary treatment. Even this early in the disease the protective and regenerative powers may be nearly exhausted, and quite probably are, in the patient having the peculiar intermittent, or Murchison type of fever. In all patients the margin of reserve power of resistance is reduced far more than is apparent. The individuals of this group are the ones who above all others change so suddenly from a relatively safe into a quite hopeless condition. After this "explosion" has occurred, an equally sudden and considerable increase in discomfort inspires these unfortunates with a tardy but now impelling desire for relief. They now submit willingly to the palliative measures far more trying than curative procedures would have been but a few weeks earlier.

Group 5, Advanced Cases.—The blood picture may be like the preceding, or may assume later features—a gradual reduction of nearly all cell forms, especially the lymphocytes, with a relative and actually neutrophilic increase. In these persons there is always a demonstrable involvement of deep structures, intrathoracic, intraperitoneal or both, frequently accompanied by more or less extensive involvement of multiple superficial gland groups. The difference between this and the preceding group in physical appearance may be slight, but commonly there are greater pallor, malaise and febrile reaction. Earlier it appeared that in this type palliation alone was obtainable; more recently there is evidence that recovery is occasionally possible. Radical extirpations, almost forbiddingly extensive, must be undertaken, and it is in this group that the administration of serum has seemed to make lesions responsive to treatment otherwise inefficacious. In the majority of these patients, in spite of relatively healthy appearance, the powers of recuperation and, possibly, of lymphoid regeneration have been so seriously and permanently depleted that were the entire Hodgkin's affection suddenly eliminated it is quite likely that the consequently lowered resistance to other types of infection, notably tuberculosis, would render long-continued existence improbable. Differ-

entiation between this and the succeeding group is so uncertain that a complete explanation and apparent understanding of the exact condition by the patient must always precede any attempt at treatment.

Group 6, Cases Probably Hopeless but Capable of Palliation.—The blood picture is of late type; the lymphocytes are reduced (below 15 per cent.), but the platelets are still numerous and the leukocytosis not excessive (less than 25,000).

The patients are still active, and though considerable deep involvement is easily demonstrable, there appears to be such an abundance of physiologic vigor that prolonged relief, if not possible recovery, is conceivable. However, the margin of reserve power is always much narrower than it appears, and tissue regeneration, especially of the hematopoietic system, is nearly if not quite at the vanishing point. Here again treatment should not be undertaken without a frank understanding. If it were not for the great reduction in physical and mental distress usually obtainable, any radical treatment would be positively contraindicated.

Group 8, Cases with Lethal Involvement and Probably Beyond Palliation.—The blood picture is now of the very late character; the lymphocytes are below 5 per cent., there is a neutrophilic leukocytosis, and the platelets may disappear. Occasionally incomplete operations to relieve pressure distress are humane. Opium, scopolamin and cocaine are the main reliances. It is remarkable how much reserve strength persists in this group when prolongation of life is regrettable. Unfortunately the number of patients seeking relief is greater in this group than in any other. This fact does not appear in our records, as a positive diagnosis can usually be made by letter, even when from a layman, and without making a blood count. Relatively few such patients come under our direct personal observation.

RESULTS

We have heretofore maintained that a recovery could be accepted only when a person had been free from all evidence of the disease, including a normal blood picture, for five years. This period exceeds so far as could be determined the longest free interval on record. In those rare instances of late recrudescence, the possibility of reinfection after a recovery has been established must be disregarded until the nature and methods of infection are determined absolutely, even though there is evidence of only incomplete temporary protective reactions.

Experience is still insufficient to determine the nature of a "normal blood picture" for individuals who have recovered after having had the disease develop beyond the incipient stage. The specific toxin has a selective action on hematopoietic tissues, wherein it provokes primarily a stimulative irritation and later produces progressive degenerative changes in these structures, from which regeneration becomes somewhat proportionately and increasingly impossible. Recovery occurring at any period, after complete regeneration is impossible, is bound to exhibit some evidence comparable to a cicatrix. It now appears that part of such evidence is more or less permanent impairment of the functions of lymphoblastic tissue. Hence a subnormal lymphocyte count need not of itself be indicative of a persistence of the disease, although suggesting reduced resistance, if the other features of the morbid blood picture have returned approximately to normal, as determined not by a single count but by a series of observations extending over several months.

During the first year after the institution of treatment, improvement, however remarkable, is of little or no prognostic value. The first year (and usually the first part thereof) has furnished virtually all of the "cures" recorded in the literature as the result of any methods of treatment.⁸ Therefore the results of a year or less in duration will be termed "temporary." During the second year a more accurate judgment is possible, and the term "apparent" is justified, as is also the term "probable" during the third and fourth years. In the fifth year and thereafter, the ultimate results become relatively more certain, though final judgment must be reserved until a complete necropsy presents conclusive evidence years after recovery has been accepted clinically.

RESULTS BY GROUPS

GROUP 1.—Acute cases; five.

Four patients died in from one to four months; one primary retroperitoneal was discovered postmortem, the other three (two primary cervical and one primary mediastinal) were subjected to various treatments without checking the process. One case, primary cervical, has assumed a chronic type following tonsillectomy, extracranial and treatment of teeth, multiple excisions and reexcisions, serum and Roentgen ray. Temporarily this patient is much improved and is still improving. Recovery is conceivable.

Estimated possibility of recovery, less than 5 per cent.

GROUP 2.—Incipient cases; five.

Two patients recovered, five years and over.

Two cases probable recovery, two years and over.

One case apparent recovery. In this patient the disease was limited to a nodule in one tonsil. Several months after tonsillectomy and Roentgen-ray exposures of the neck, symptoms suggesting extramedullary pressure on the tenth to the twelfth thoracic spinal segments developed. Relief finally followed serum administration and Roentgen-ray treatment of spine.

Estimated possibility of recovery, from 80 to 90 per cent.

GROUP 3.—Early cases; three.

One patient probably recovered. This patient has been under treatment eight years. His blood picture has never returned to normal and probably never will, but it is conceivable that the disease was eradicated five years ago.

One patient temporarily recovered.

One patient refused operation, and was treated elsewhere with vaccine and the Roentgen ray. Dead.

Estimated possibility of recovery, from 60 to 70 per cent.

GROUP 4.—Moderately advanced cases; eleven.

Two patients, recovery probable. Improvement during the past five years indicates that the disease is all but overcome.

One patient probably recovered.

One patient apparently recovered.

Five patients temporarily relieved; one of these now shows hopeless involvement.

One patient refused treatment.

One case, primary incomplete excision done elsewhere without previous tonsillectomy. Tonsillectomy; vaccine and Roentgen ray given, followed in a few months by a sudden recrudescence in an acute form. This was attributed, possibly unjustly, to the vaccine.

Estimated possibility of recovery, from 30 to 40 per cent.

GROUP 5.—Advanced cases; fourteen.

One patient probably recovered; case once appeared hopeless.

Three cases temporarily improved.

Three patients refused treatment; two dead, one dying.

Three cases are in terminal stages. All these patients refused intervention at a critical period when nothing less would benefit.

Two patients are dead; both were temporarily benefited, one (mentioned above) so greatly improved as to raise hopes of a recovery.

One patient has been subjected recently to an incomplete operation elsewhere.

One patient succumbed to operation.

Estimated possibility of recovery, from 5 to 10 per cent.

GROUP 6.—Very late cases, palliation still possible; fourteen.

Three patients declined to begin treatment. All are dead.

Three patients refused to continue treatment. One dead, two dying.

Four patients survived but a few (from eight to twelve) weeks. All were temporarily improved and for a time appeared to gain. This type without reserve power would be subjected to no treatment were it possible to estimate actual conditions.

Three patients have had from three to twelve months of hope and comfort; two are still active and optimistic. Two of these appeared to be weaker than three of the preceding four patients who responded less.

One patient died during operation.

Estimated mortality, 100 per cent.

GROUP 7.—Lethally involved cases; eleven.

As stated above, this would be the largest group if it included those who have consulted by letter.

Two palliative operations were attempted: one, a mediastinal decompression which was never begun, as the patient died during the induction of anesthesia; the other, an axillary decompression, which was very gratifying in its relief.

This group included at least two primary mediastinal cases.

Mortality, 100 per cent.

COMMENT

We regret the impossibility of giving more exact figures as to ultimate recoveries, but as 67 per cent. of these patients have come to us within the last two years, and as our work before that time was less standardized, the reason is obvious.

Apparently greater benefits are being obtained as experience increases and methods and judgment improve. We are of the opinion that in about 20 per cent. of all cases as we see them recovery is a possibility at present.

Earlier diagnoses, and the recognition that Hodgkin's disease, if treated promptly and radically, is curable would raise this percentage materially without any change in the treatment outlined above. More definite laboratory and clinical knowledge of this disease as a morbid physiologic process, and clearer conceptions of the defensive mechanisms which combat it, are needed to further an effective rational therapy.

Average Filipino Food Ration.—The food or ration now used by the average Filipino family is poorly balanced and lacking in nutritive properties, and is poorly prepared and served. It is poorly balanced in that the preponderant element is rice, polished, and as a rule of inferior quality. The protein element, particularly as regards animal protein, is lacking. There is also an insufficiency of fat, and vegetables and fruits are not used in anywhere near the proportions in which they should be used. The food as a rule is poorly prepared, insufficiently cooked, and improperly served; it is eaten in a great majority of instances with the fingers by dipping into a common dish, and meals are at irregular intervals.—J. D. Long, Reprint No. 371, *Public Health Reports*, Oct. 27, 1916.

8. We have been unable to learn of a single permanent recovery from the disease except those herein recorded, where a positive diagnosis has been made by other than clinical methods of physical examination. Tuberculous lymphadenitis can imitate Hodgkin's disease too accurately to be differentiated except by the morbid histology, and such examples are too common to be disregarded. We assume that the constant failure of the exponents of any method of treatment to make subsequent reports of their patients who improved primarily or to record consistent improvement leading to recovery in other individuals must be accepted as evidence of the inefficacy of those methods.