## RECENT DEVELOPMENTS IN THE TREATMENT OF CANCER.

A most interesting Lecture of which we print the first instalment below was delivered by Dr. Stanley Wyard, M.D., Lond., Assistant Physician at the Cancer Hospital, Fulham Road, S.W., and Fellow of the Royal Society of Medicine, at the British College of Nurses, 39, Portland Place, London, W., on February 12th and 19th.

## THE LECTURE.

It is a fortunate thing for the medical profession—and, of course, for mankind in general—that the natural tendency of most diseases is towards spontaneous cure. When that is not the case, e.g., in Addison's disease, general paralysis of the insane, disseminated sclerosis and cancer no cure is yet known. In two diseases, viz., pernicious anæmia and diabetes, we have made distinct progress towards the desired end, and there is consequently hope that some degree of success may crown our efforts in other directions. At any rate, an enormous amount of work is being done and money spent in investigating the problem of cancer, but although in recent years much has been learned we are still no more than on the threshold of knowledge. So much so that a short time ago, as a result of attending a conference of some of the leading cancer investigators of the country, I came away realising that practically all are agreed on four points :—(I) That nothing is known as to the nature of cancer; (2) We do not know its cause; (3) We do not know how to prevent it; and (4) We have no idea how to cure it.

It is an old and trite saying that prevention is better than cure, and one frequently hears it said "Find the cause of cancer and then we shall be able to cure it." Unfortunately that is a very fallacious argument and is often quite wrong. For years we have known the cause of general paralysis of the insane but we are no nearer the cure-in fact a knowledge of the cause only serves to convince one that we shall never find a cure. In my opinion, the same is true of cancer. But there is another aspect of the situation-if we know the cause, then by removing it we may prevent the disease ; not necessarily, of course, is even that much true, but there is at least a chance that if we can find the cause of cancer we may prevent its appearance. That, I think, is the really hopeful possibility and I look forward to the time when, by eliminating all the causes of cancer, we may rid ourselves of the scourge, but I am convinced that once cancer has appeared we can never hope to eradicate it.

Having commenced in this thoroughly pessimistic strain let me now turn to the brighter side and, leaving what we cannot do, turn to what can be done and that is no little. Far more can be done, and is being done, than the public probably appreciate. To a large extent my pessimism depends upon the definition of the word "cure." This is really a word which should never be used in connection with cancer. It is no 'uncommon thing to come across a patient who, having had an operation for cancer, has remained perfectly well for 15 or 20 years, and then the disease has recurred. It is not that a new cancer has formed but the old cancer has reappeared in the scar or, more commonly, elsewhere. It is, then, highly improbable that one can cure cancer in the sense of completely eradicating the disease in the same way that one can eradicate scarlet fever. But in a large number of cases it is possible to do almost as well.

Cancer is a disease of later life; in other words, the average patient with cancer has not very many years to live even if cancer had not appeared. For instance, a man of 60 years may expect another ten years or so of life. If he gets cancer and, by any possible treatment, can be kept alive for ten years in reasonable comfort, that treatment has done all that can properly be expected of it. There is no doubt that this can frequently be done in the case of cancer of the accessible sites, such as the breast and cervix uteri. But to assess the value of any particular treatment in this way is not practicable, so another standard has to be adopted.

Statistics show that after a thorough surgical operation which has apparently removed the growth completely, if there be any recurrence it is most likely to occur during the first year. With each year that passes recurrences become less irequent. It is therefore assumed that a patient who is free from recurrence at the end of five years is, for statistical purposes, cured. In all reports of the treatment of cancer this five-year standard is almost universally adopted to-day, though in certain cases, where the followup of patients is difficult, it may be necessary to take a threeyear standard. It is sometimes the best that can be done but is never satisfactory; recurrences in the fourth and fifth year are common enough to introduce a serious error into conclusions drawn from the figures obtained.

If, then, in the course of my further remarks I speak of cure, it is always in this sense of a five-years' freedom from recurrence.

Yet another factor must be taken into account in attempting to evaluate the success of any treatment, it is the natural duration of the disease, *i.e.*, the length of time a patient may expect to live if he receive no treatment at all. This varies greatly with the type of cancer and its situation. Cancer of the breast is relatively slow in growth and an untreated case may expect to live for three years or so. Cancer of the rectum has a natural duration of about two years; of the cervix uteri rather less than two; while cancer of the œsophagus or gullet causes death in about a year; of the larynx in about 14 months. These figures apply, of course, to the interval between the onset of symptoms and death. How long the disease may be present before symptoms appear we can never know.

I fear you will think I am taking a long time to reach the real subject of these lectures, but it seems to me that these preliminary remarks are essential if we are to appreciate the difficulties and pitfalls which surround us in our attempts to find a cure for cancer. I therefore make no apology for taking up your time with them. But I will complete them with a few words about the causation of the disease. First, concerning some things which do not cause cancer. Cancer is not infectious. There is no authentic evidence that anyone has ever contracted the disease by contact with another person suffering from it. No infective agent has ever been discovered.

Recently some experiments were reported which seemed to show that malignant growths may be caused by a living virus-some sort of germ-which is too small to be seen even under the microscope, but further investigation suggests that the experiments were erroneous and it is still the general opinion that no germ is responsible. One hears, again, of cancer houses and cancer localities but the idea of their existence is due to faulty or incomplete observation. Nor is cancer hereditary. If a family is short lived and its members die at or before middle-age cancer will be rare in that family because it does not as a rule occur before middle-age. If the family is long lived and most of its members reach old age then it is probable that many of them will suffer from cancer because cancer is a disease of old age. Certain observations made on mice bred in captivity are cited as evidence of an hereditary tendency to cancer in these animals, but it is doubtful whether the observations are correct. At anyrate, no real evidence has ever been adduced in the case of man. Concerning age little need be said. Cancer may occur at any age but is comparatively rare before middle-life and becomes com-



