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Photo: Einar Nilsen

Medical science is developing rapidly. Much remains the same, however.

In momentous development?

We like to say that medical science is undergoing momentous development. Progress in diagnostics and treatment is providing better options for many people. A growing number can be helped, patients have better quality of life, and those who were previously referred to as «hopeless cases» can now often be offered treatment. This notion is a source of hope. «The doctors are so clever these days,» people say. «It will certainly work out fine.»

Modern medicine is a success story. However, the clichéd notion of momentous development conceals another reality – that development in some areas proceeds slowly. Some examples: In general, the prognosis for metastatic cancer has remained unchanged with regard to solid forms of cancer. Most of them are still incurable once they have spread, such as lung cancer, melanoma, liver cancer, pancreatic cancer and sarcoma. Five-year relative survival for all stages of lung cancer amounts to a little more than ten per cent, and this prognosis has remained unchanged for the last forty years (1). In the Western world, the total five-year survival rate for pancreatic cancer is less than five per cent, which has remained nearly unchanged during the last decades (2). And there is no reason to disparage the efforts in this field; hardly any other area of medicine has access to such ample resources as cancer.

For many other diseases as well, the prognoses have changed little. Degenerative brain disease is an area that provides numerous examples. The long-term prognosis for primary progressive multiple sclerosis is approximately the same as it was fifty years ago (3). Dementia remains 100 per cent fatal, and hardly any effects on survival periods have been documented for the new anti-dementia drugs. The list could go on. It can hardly be called a momentous development.

Most likely, the inclination to use such terms has another explanation. In former times, the church secured its own position by having a monopoly on provision of assurance. In a chaotic and unpredictable world, the church was the sole guarantor of the future. This bestowed an unsurpassed power in an age ravaged by chaotic and dangerous forces that were beyond anyone's understanding, including things such as lethal infections. Modern health services can also provide such a form of assurance. In a world full of unpredictable forces, we take charge and keep an overview. Medical science is in momentous development and is solving all the enigmas of the body. Many people want an ultimate truth and an explanation for everything to be found out there, and for someone to say that they have found it or are in the process of finding it. To some, a science in momentous development is the answer.

During my time in medical school in the 1990s, the large human genome project HUGO had been set in motion. The idea that the entire human genome could be sequenced made our heads spin. Such opportunities! But what happened? There was hardly any momentous development in clinical everyday practice.

The area that currently arouses the highest expectations is brain research. Even here, a dose of cold water may be called for. «Brain research is in crisis,» according to Professor Albert Gjedde, head of the Institute of Neuroscience and Pharmacology at the University of Copenhagen. After three decades of research, he is disappointed by the results that these efforts have yielded. «We hardly know anything about the way in which the brain functions,» he says (4). We are up against limitations imposed by nature and biology. The expectations of what can be achieved are unrealistic.

As I see it, much of the optimistic belief in medical progress is related to the success of antibiotics. Diseases that previously were fatal could suddenly be cured with antibiotic drugs. One problem in contemporary medicine is that this unrealistic, lingering expectation of a cure has become the very measure of therapeutic success. Such an expectation is a dead-end street. There are numerous serious diseases that we will probably never be able to cure. There will be drugs available that can modify many groups of diseases, permitting people to live longer and better with their disease. Conditions that previously were fatal can become chronic.

Part of the problem is therefore not the dearth of medical progress, but lack of realisation that progress will not primarily be a matter of finding a cure. The antibiotic success story has helped conceal the fact that disease is a scourge of mankind, from which progress will never relieve us. However, medical development may help us live with disease, and this will perhaps be the key contribution to be made by medical science in the years to come.

In 1980, the German magazine *Der Spiegel* published a series of articles on modern medicine. The magazine reviewed a number of interviews with German professors of medicine from the 1960s to ascertain their predictions about what medical achievements would be realised in the near future. According to these interviews, the following would be a reality before 1980: all infectious diseases would be eradicated (including the common cold), transplantation would be available to everyone, no children would be born with malformations, effective drugs against cancer, artificial blood, eyesight would be restored to the blind and hearing to the deaf. Average life expectancy would be 100 years (5). Today, of course, we may smile patronisingly at such optimism for the future. But what answers would we give today? Do we envisage a momentous development?

References

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