Signal transduction and similar methods are usually aimed or limited to a special area of diseases or a type of species. Really valuable results in medical research have been expected from laboratory work rather than from the bedside of the patient. Comparing HOX functions might be one first step. Still, despite large databases a uniquely identifiable application in a certain cancer, i.e. Medulloblastoma growth inhibition by Hedgehog pathway blockage, is very rare.

As a clinician, I do expect more valuable results only, if the anamnesis (the patient’s clinical medical history) had been much more taken into account. This would enable to open a sophisticated two pathway communication with the researchers in the lab.

Clinical segmentation is most obvious in dermatologic diseases: Their pattern formations follow viscero-cutan reflexes [W Hauser, 1913-2001]. Internal diseases and cancers do so with respect to their clinical appearances in patients. “Observations from the bedside into the laboratory make basic discoveries … translate these discoveries into new methods for prevention, diagnosis, and treatment of diseases” [WR Brinkley].

How is clinical segmentation connected to genetic pattern formations in animal models and vice-versa? Working upon a strictly interdisciplinary basis, a database of applications of pattern formations and segmental aspects in medicine and nature (plants and animals) has been developed. Applications are found i.e. in allergies, asthma bronchiale, arteriosclerosis, coronary heart disease, carcinomas (breast, bronchial, gallbladder, pancreas), leukemia, melanoma, Morbus Hodgkin’s disease, herpes simplex, tuberculosis, lepra, and malaria. Examples will be shown, i.e.:
• Early segmentally determined precursors occur up to three years prior to the date of the official "first diagnosis" of a gallbladder cancer as a second tumor after Morbus Hodgkin!

• The onset of breast cancer\(^5\) and its metastases is segmentally closely associated to a previous myocarditis and the behavior of diabetes mellitus II in the same patient.

• In maligne melanoma\(^6\), its segmental dissimination leads to a new gender based gene therapy.

• A similar system is currently under development for lung cancers.

This is of interest to patients, biomedical scientists, and financial analysts in order to achieve reliable returns of investments in sciences, biotechnology, and pharmaceutical industries.

The Project SEGMENTA is under way to found a research firm of Medical Scientific Knowledge Enterprise. Background are broad clinical experiences in this field of clinical segmentation of almost 60 years, meanwhile in the second generation. Its knowledge and product portfolio provides clinical applications of pattern formations for new drug discovery strategies basing on THE NEW MEDICAL ENTITIES\(^7\), almost as “easy” as in drosophila: Patient + Pattern = Discovery + Product\(^8\).

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\(^7\) F. E. Hauser: "Clinical Segmentation - New Medical Entities in Genome Informatics." Cold Spring Harbor Laboratory / Wellcome Trust Conference: Genome Informatics, Hinxton, UK, Aug 8-12, 2001.