EVOLUTION AND APPLICATION OF NEW GENETIC TECHNIQUES - FROM NUCLEIC ACIDS VIA MICROARRAYS TO CRISPR

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Introduction
Analysis of human chromosomes has evolved over the last 130 years. The development of chromosomal banding techniques in the 1970s marked the start of a period of innovation in cytogenetics which most recently has seen microarrays (aCGH) being used to investigate copy number variation.

Results
With the advent of aCGH technology which happened several years ago, genetic testing has been more comprehensive and precise. Although next generation sequencing makes fast progress and seems to slowly replacing aCGH, this technology can still produce very useful molecular genetic data and it is a great tool for diagnosing human diseases. The work presents techniques used in the Genetics Departments of Medical University in Lublin for the diagnosis of genetic diseases, including cancer.

Conclusions
Lately, we explore how genetic techniques may serve as the basis for development of future diagnostics tests and therapeutic agents.

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